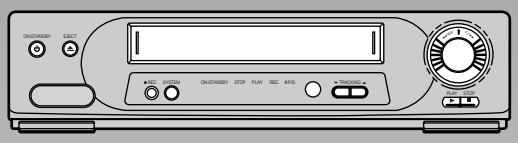
VIDEO CASSETTE LINE RECORDER

SVR-18A
SVR-18B
SVR-18C

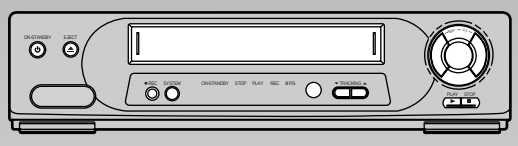
SERVICE Manual

For mechanical disassembly and adjustment, refer to the "Mechanical Manual" (DX7-A/AC, DX8-A/AC ⟶ AC68-20392A).

VIDEO CASSETTE LINE RECORDER



SVR-18A



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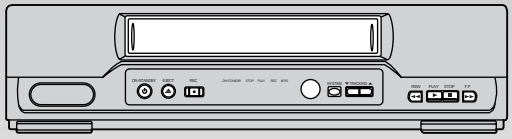

SVR-18C

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AC68-20404A

1. Precautions

1. Be sure that all of the built-in protective devices are replaced. Restore any missing protective shields.

2. When reinstalling the chassis and its assemblies, be sure to restore all pretective devices, including : control knobs and compartment covers.

3. Make sure that there are no cabinet openings through which people--particularly children --might insert fingers and contact dangerous voltages. Such openings include the spacing between the picture tube and the cabinet mask, excessively wide cabinet ventilation slots, and improperly fitted back covers.

   If the measured resistance is less than 1.0 megohm or greater than 5.2 megohms, an abnormality exists that must be corrected before the unit is returned to the customer.

4. Leakage Current Hot Check (See Fig. 1) :
   Warning : Do not use an isolation transformer during this test. Use a leakage current tester or a metering system that complies with American National Standards Institute (ANSI C101.1, *Leakage Current for Appliances*), and Underwriters Laboratories (*UL Publication UL1410, 59.7*).

5. With the unit completely reassembled, plug the AC line cord directly the power outlet. With the unit's AC switch first in the ON position and then OFF, measure the current between a known erath ground (metal water pipe, conduit, etc.) and all exposed metal parts, including : antennas, handle brackets, metal cabinets, screwheads and control shafts. The current measured should not exceed 0.5 milliamp. Reverse the power-plug prongs in the AC outlet and repeat the test.

6. X-ray Limits :
   The picture tube is designed to prohibit X-ray emissions. To ensure continued X-ray protection, replace the picture tube only with one that is the same type as the original.

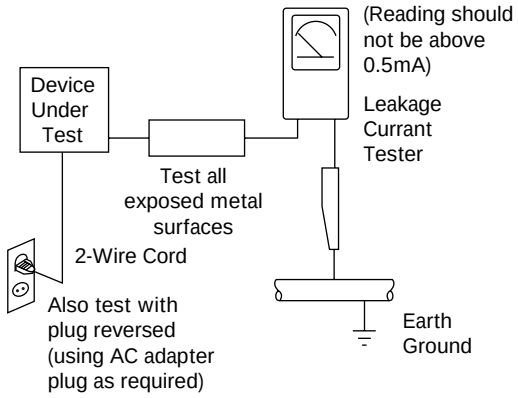

(Reading should not be above 0.5mA)
Device Under Test
Leakage Currant Tester
Test all exposed metal surfaces
2-Wire Cord
Also test with plug reversed (using AC adapter plug as required)
Earth Ground

Fig. 1-1 AC Leakage Test

7. Antenna Cold Check :
   With the unit's AC plug disconnected from the AC source, connect an electrical jumper across the two AC prongs. Connect one lead of the ohmmeter to an AC prong.
   Connect the other lead to the coaxial connector.

8. High Voltage Limit :
   High voltage must be measured each time servicing is done on the B+, horizontal deflection or high voltage circuits.

   Heed the high voltage limits. These include the *X-ray protection Specifications Label*, and the *Product Safety and X-ray Warning Note* on the service data schematic.

9. Some semiconductor ("solid state") devices are easily damaged by static electricity.
   Such components are called Electrostatically Sensitive Devices (ESDs); examples include integrated circuits and some field-effect transistors. The following techniques will reduce the occurrence of component damage caused by static electricity.

10. Immediately before handling sny semiconductor components or assemblies, drain the electrostatic charge from your body by touching a known earth ground. Alternatively, wear a discharging Wrist-strap device. (Be sure to remove it prior to applying power--this is an electric shock precaution.)

11. High voltage is maintained within specified limits by close-tolerance, safety-related components and adjustments. If the high voltage exceeds the specified limits, check each of the special components.

12. Design Alteration Warning :
    Never alter or add to the mechanical or electrical design of this unit. Example : Do not add auxiliary audio or video connectors. Such alterations might create a safety hazard. Also, any design changes or additions will void the manufacturer's warranty.

13. Hot Chassis Warning :
    Some TV receiver chassis are electrically connected directly to one conductor of the AC power cord. If an isolation transformer is not used, these units may be safely serviced only if the AC power plug is inserted so that the chassis is connected to the ground side of the AC source.

    To confirm that the AC power plug is inserted correctly, do the following : Using an AC voltmeter, measure the voltage between the chassis and a known earth ground. If the reading is greater than 1.0V, remove the AC power plug, reverse its polarity and reinsert. Re-measure the voltage between the chassis and ground.

14. Some TV chassis are designed to operate with 85 volts AC between chassis and ground, *regardless of the AC plug polarity*. These units can be safely serviced *only* if an isolation transformer inserted between the receiver and the power source.

15. Never defeat any of the B+ voltage interlocks. Do not apply AC power to the unit (or any of its assemblies) unless all solid-state heat sinks are correctly installed.

16. Always connect a test instrument's ground lead to the instrument chassis ground *before* connecting the positive lead; always remove the instrument's ground lead last.

17. Observe the original lead dress, especially near the following areas : Antenna wiring, sharp edges, and especially the AC and high voltage power supplies. Always inspect for pinched, out-of-place, or frayed wiring. Do not change the spacing between components and the printed circuit board. Check the AC power cord for damage. Make sure that leads and components do not touch thermally hot parts.

18. Picture Tube Implosion Warning :
    The picture tube in this receiver employs "integral implosion" protection. To ensure continued implosion protection, make sure that the replacement picture tube is the same as the original.

19. Do not remove, install or handle the picture tube without first putting on shatterproof goggles equipped with side shields. Never handle the picture tube by its neck. Some "in-line" picture tubes are equipped with a permanently attached deflection yoke; do not try to remove such "permanently attached" yokes from the picture tube.

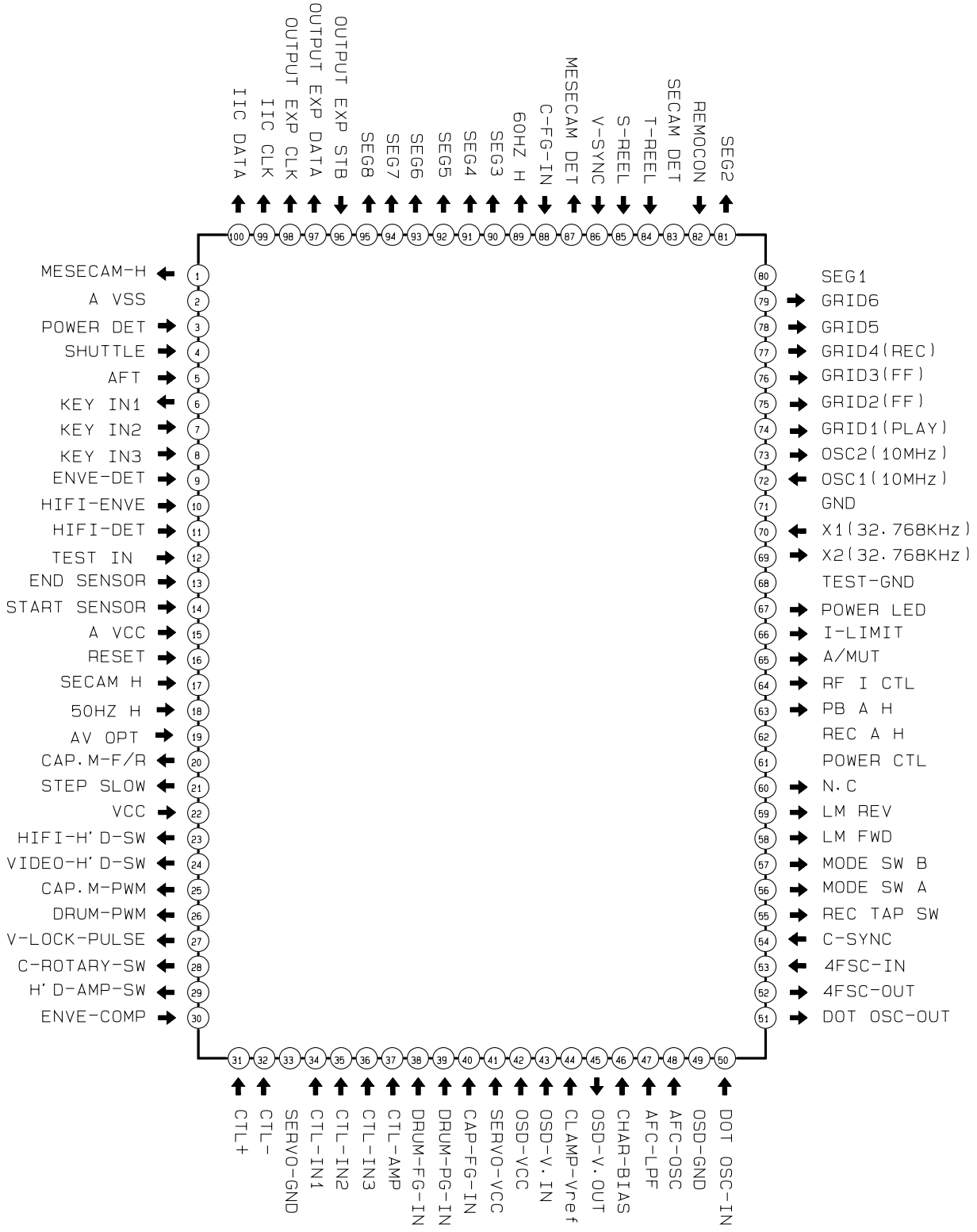
20. Product Safety Notice :
    Some electrical and mechanical parts have special safety-related characteristics which might not be obvious from visual inspection. These safety features and the protection they give might be lost if the replacement component differs from the original--even if the replacement is rated for higher voltage, wattage, etc.

    Components that are critical for safety are indicated in the circuit diagram by shading, (or).
    Use replacement components that have the same ratings, especially for flame resistance and dielectric strength specifications. A replacement part that does not have the same safety characteristics as the original might create shock, fire or other hazards.

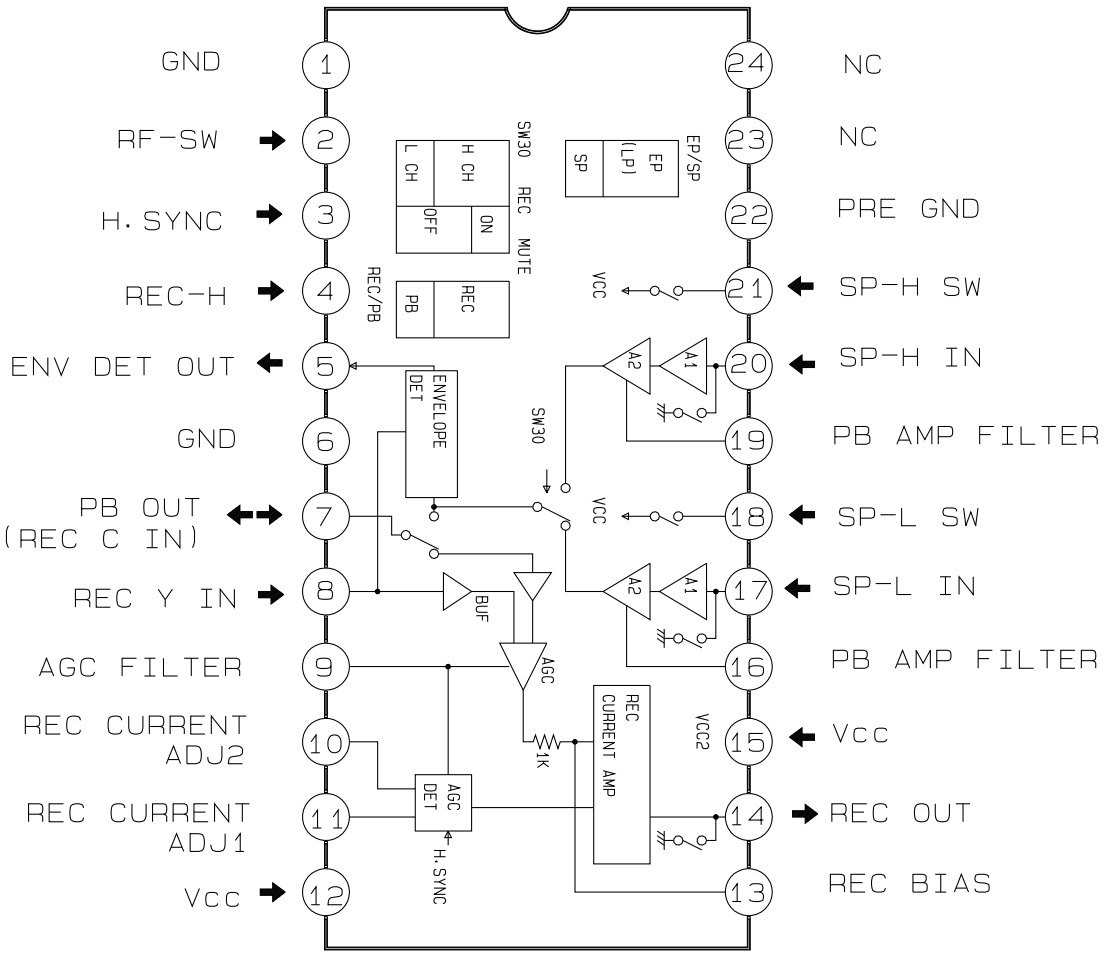
2. Reference Information

2-1 IC BLOCK

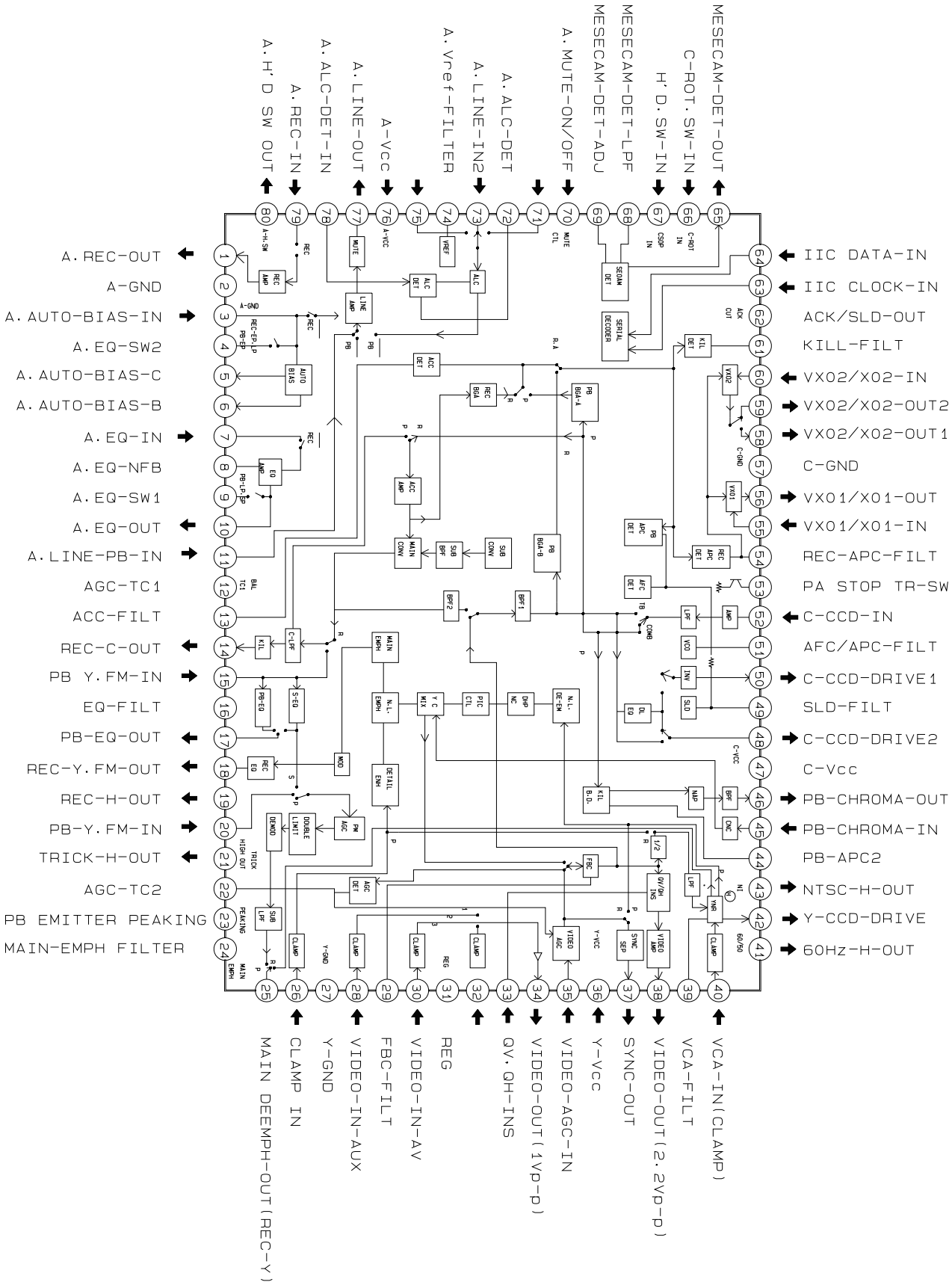
2-1-1 IC601 (HD6433977)



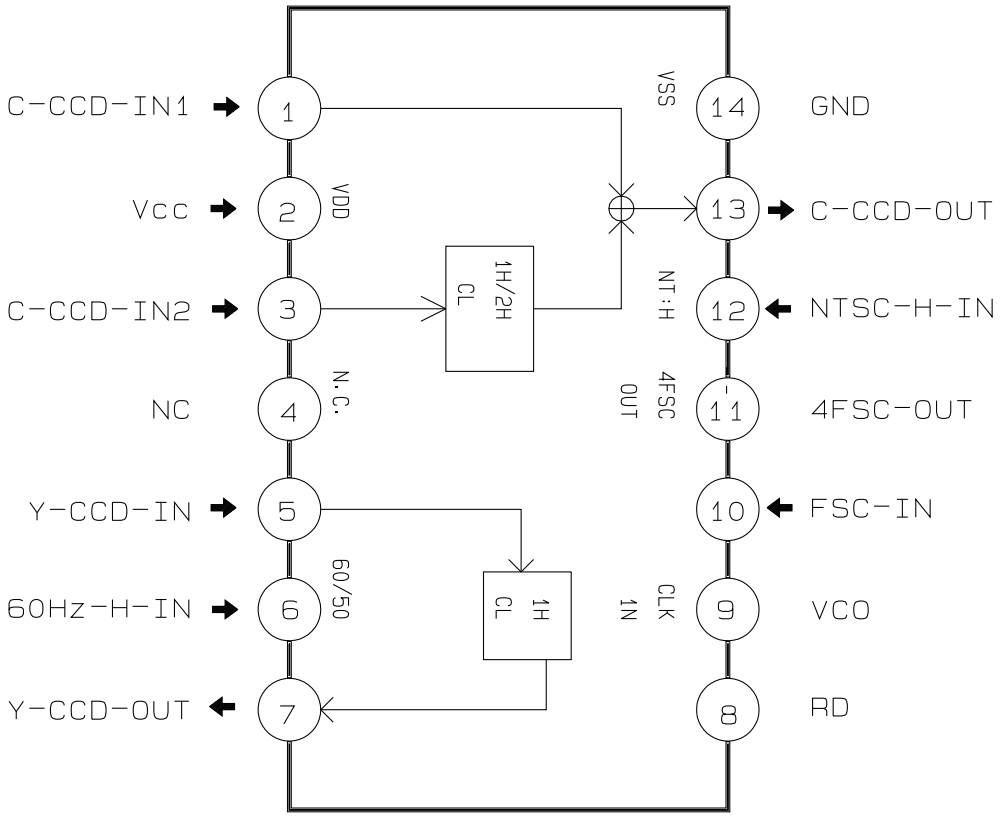
2-1-2 IC301 (LA7411)



2-1-3 IC302 (SS11501M/SS11511M)



2-1-3 IC303 (SS23378M/SS23377M)



3. Product Specifications

3-1 Product Specifications

Design and specifications are subject to change without notice.

Operation	Description
Format	VHS PAL standard
Video recording system	Video : 2 rotary heads, helical scanning system Luminance : FM azimuth recording Color : Down converted subcarrier phase shifted direct recording
Television system	CCIR Standard G/K
Color system	PAL, MESECAM, NT 3.58, NT 4.43, NT PB
Tape width	12.65 mm (1/2 inch)
Tape speed	PAL : 23.39 mm/sec, NTSC : 33.35 mm/sec
Recording/playback time	4 hours with E-240 Tape
F.F/REW time	About 150 ~ 200 sec with E-180
Heads	Video : 2 rotary heads Audio/Control : 1 stationary head Erase : 1 full track erase head
VIDEO	
Input Output Signal-to-noise ratio Horizontal resolution	0.5 to 2.0 Vp-p : 75 ohm unbalanced 1.0 Vp-p : 75 ohm unbalanced Better than 43 dB More than 240 lines
Audio	
Input Output Signal-to-noise ratio Frequency response	Line : -8 dBm, 47 Kohm unbalanced Line : -8 dBm, 1 Kohm unbalanced More than 42 dB min (IHF A filter) 100Hz - 8KHz
Output channel	Channel 22 - 69 (preset ch36)
Power requirement	AC 230V 50/60 Hz, DC12V
Power consumption	Approx. 13 watts
Operation temperature	41°F-104°F (5°C-40°C)
Operation humidity	10%-75%
Weight (net)	3.5 Kg
Dimensions (W x H x D)	360 x 90.5 x 290 mm

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4. Disassembly and Reassembly

4-1 Cabinet Assembly

Note : Disassemble in the order shown.
Reassemble in reverse order.

4-1-1 Cabinet Top removal

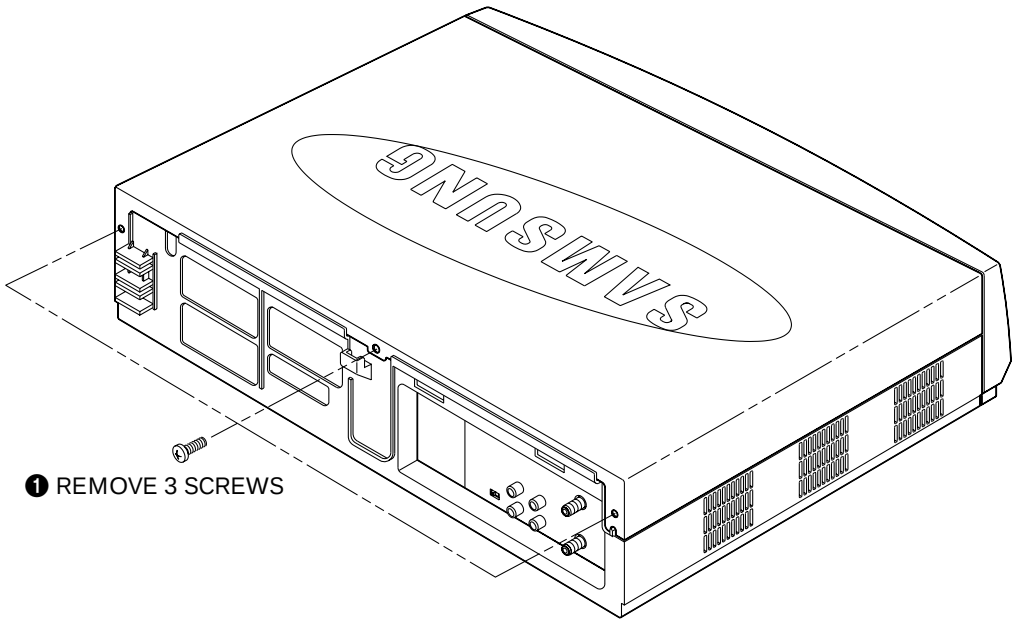


Fig. 4-1 Cabinet Top removal

4-1-2 Bottom cover removal

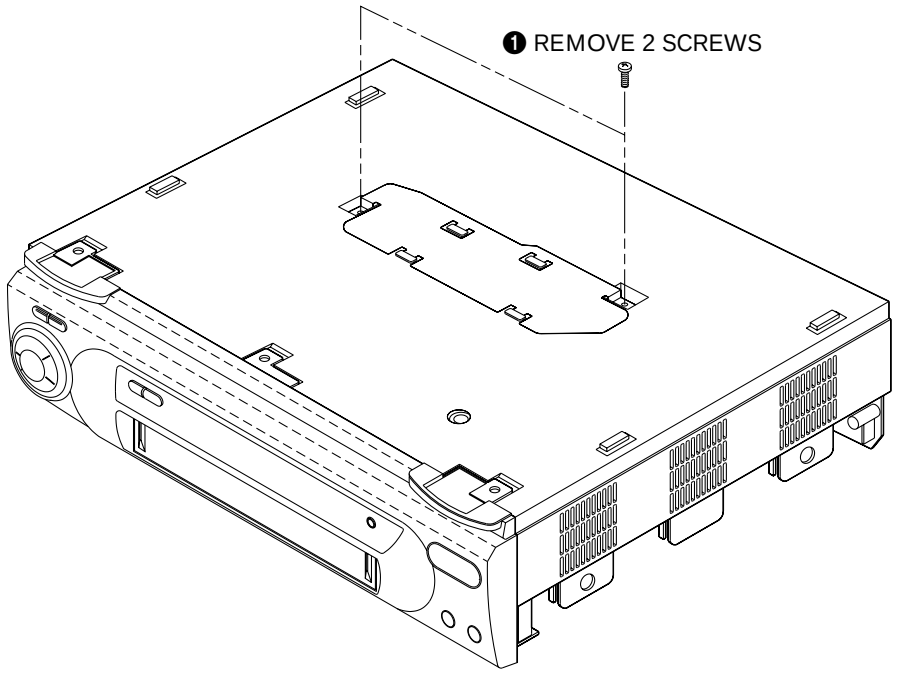
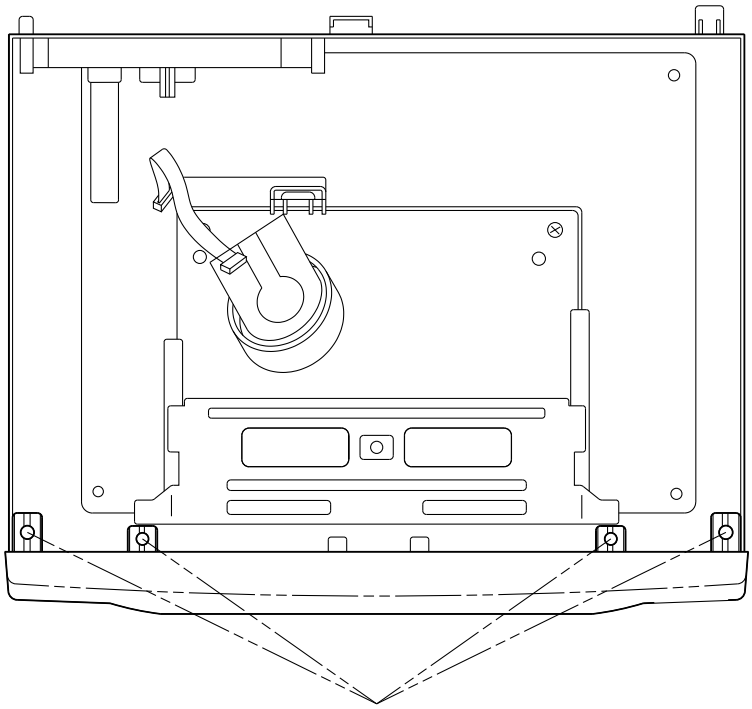
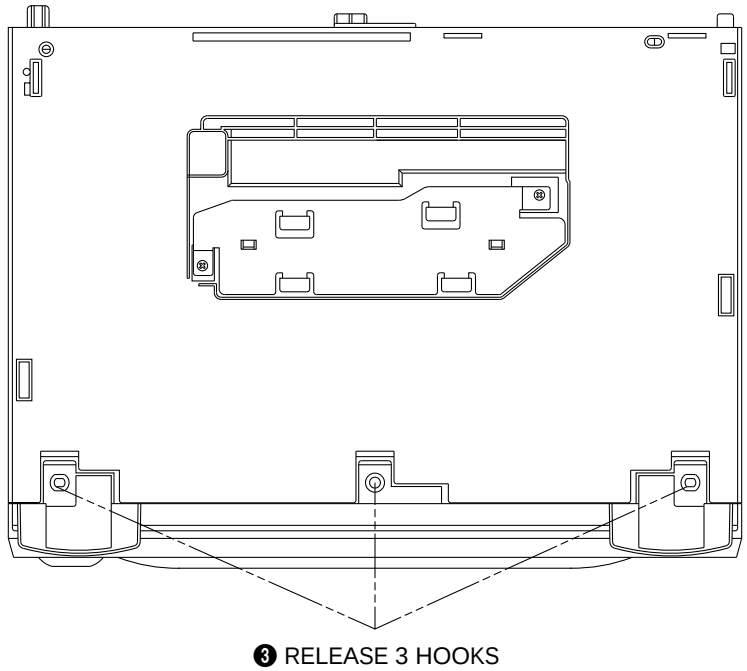


Fig. 4-2 Bottom cover removal

4-1-3 Ass'y Front Panel removal



(Top view)



(Bottom view)

Fig. 4-3 Ass'y Front Panel removal

4-1-4 Ass'y Function-Timer removal

Note : Take extreme care not to damage the PCB when removing it.

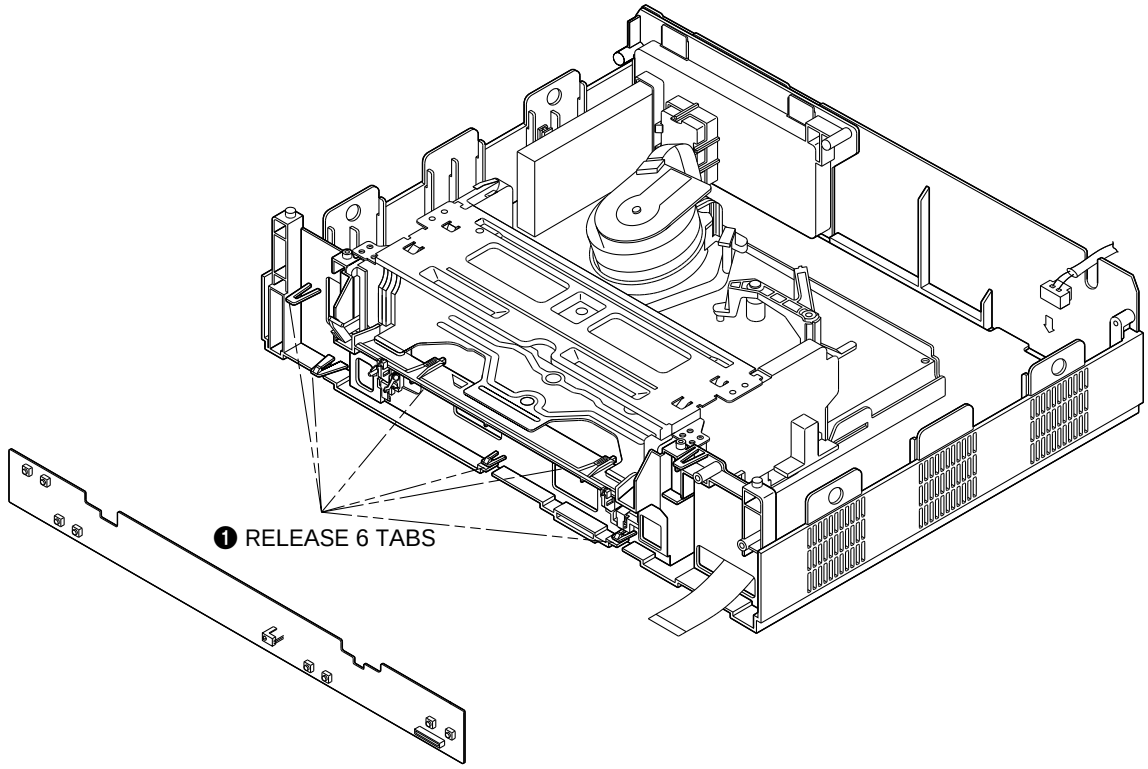


Fig. 4-4 Ass'y Function-Timer removal

4-1-5 Chassis removal

Note : When removing chassis, take extreme care not to damage the main PCB front.

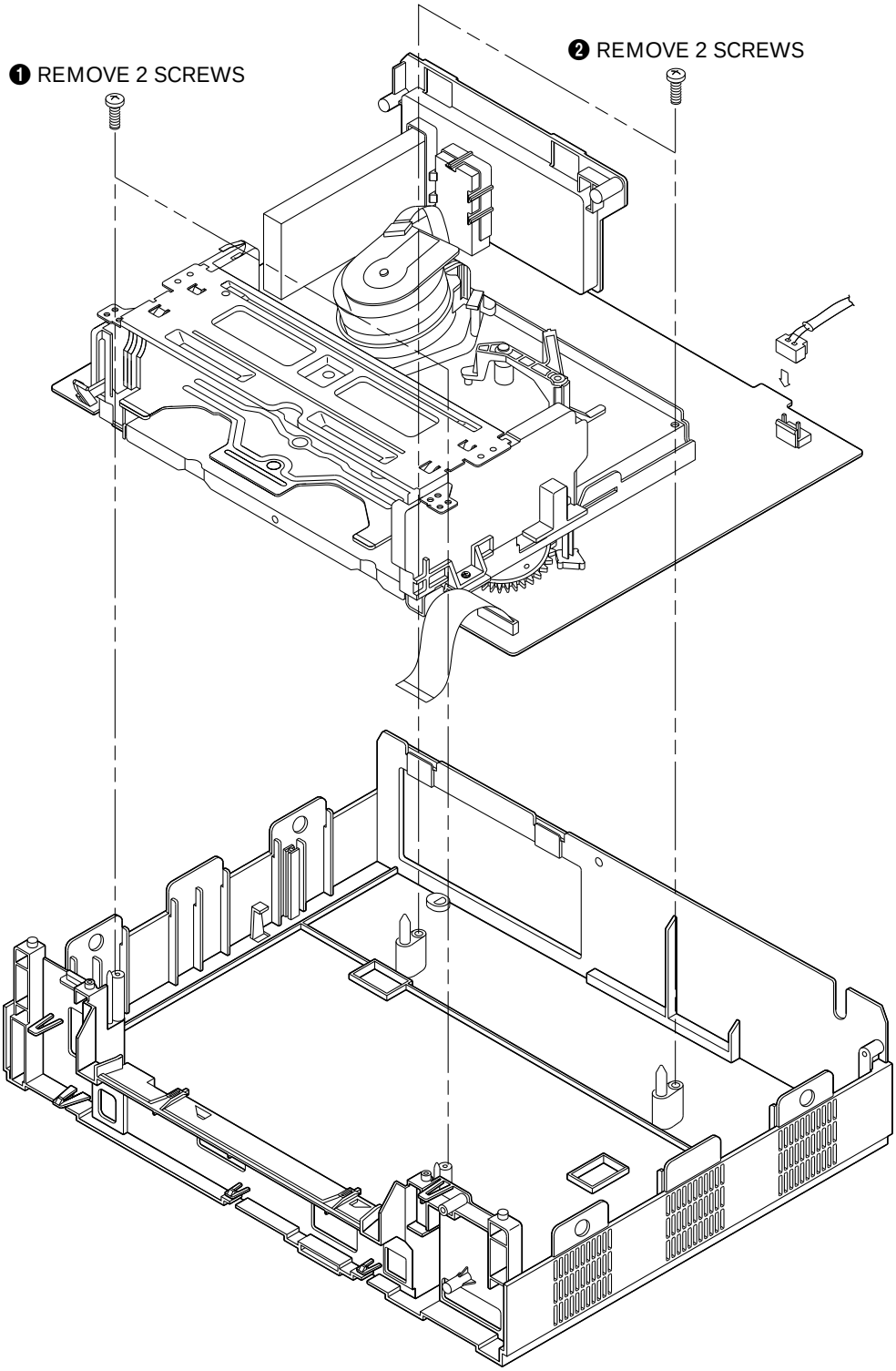


Fig. 4-5 Chassis removal

4-1-6 Main board removal

Note : When reinstalling the deck on the main PCB, take extreme care not to damage the sensor.

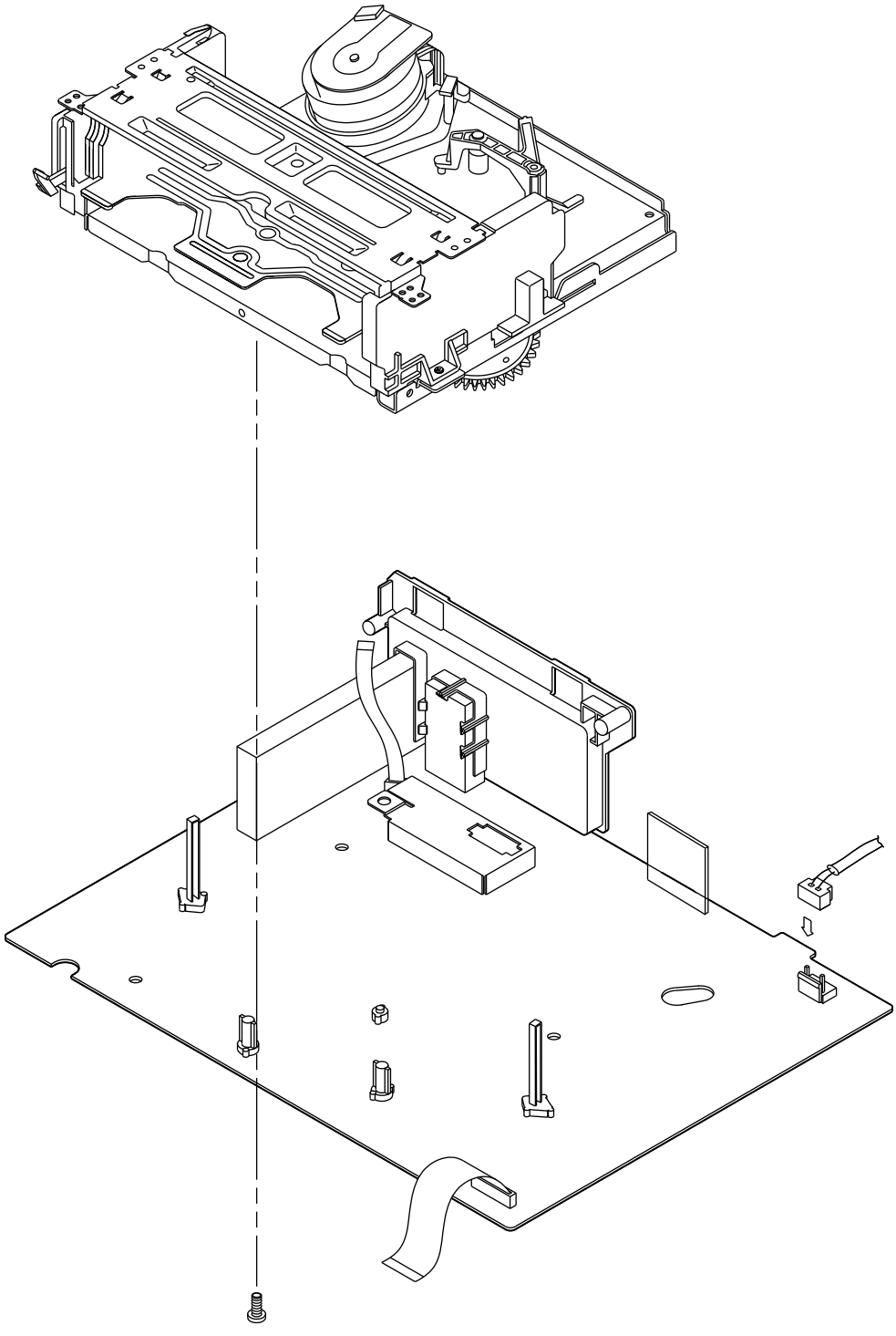


Fig. 4-6 Main board removal

4-2 Circuit Board Locations

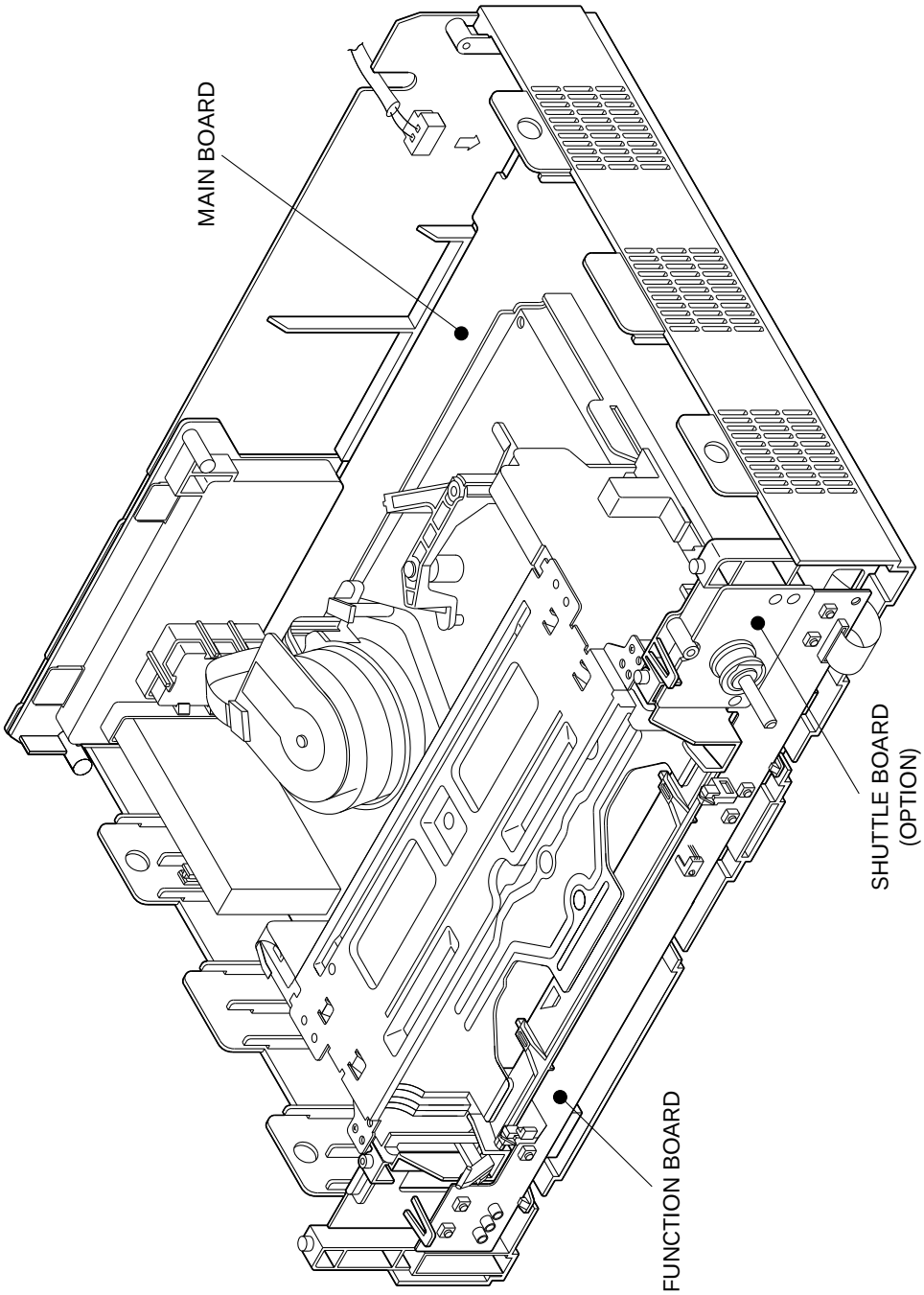


Fig. 4-7 Circuit board locations

5. Alignment and Adjustment

Note : After replacing the ass'y full deck, the ass'y main, the cylinder ass'y and the micom(IC601), the remote control ass'y can be used to adjust the "X-point (tracking center) adjustment" and "Head S/W point" adjustment.

5-1 Reference

5-1-1 The type of remote control ass'y

1. Remote control ass'y (AC93-10039Y/69099-633-252) is specified as a service jig in the service manual of X-5/X-6(DX5-R/DX5-RC/DX6-R/DX6-RC) chassis. (See Fig. 5-1)
2. Normal remote control ass'y for X-7/X-8 (DX7-R/DX7-RC/DX8-R/DX8-RC) chassis. (See Fig. 5-2)

5-1-2 How to identify between normal remote control ass'y and multi remote control ass'y for X-7/X-8 chassis (See Fig. 5-2)

1. The color of some buttons related to TV function are gold.
2. Audio button is added instead of the test button hidden behind of inlay.
3. The positions of some buttons are different.

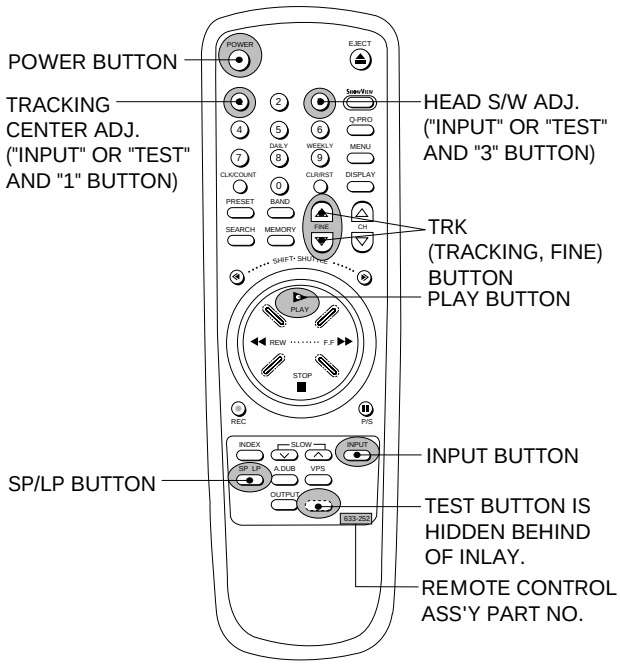

POWER BUTTON
TRACKING CENTER ADJ. ("INPUT" OR "TEST" AND "1" BUTTON)
HEAD S/W ADJ. ("INPUT" OR "TEST" AND "3" BUTTON)
TRK (TRACKING, FINE) BUTTON
PLAY BUTTON
INPUT BUTTON
SP/LP BUTTON
TEST BUTTON IS HIDDEN BEHIND OF INLAY.
REMOTE CONTROL ASS'Y PART NO.
633-252

Fig. 5-1 Remote Control Ass'y Jig for X-5/X-6 Chassis (AC93-10039Y/69099-633-252)

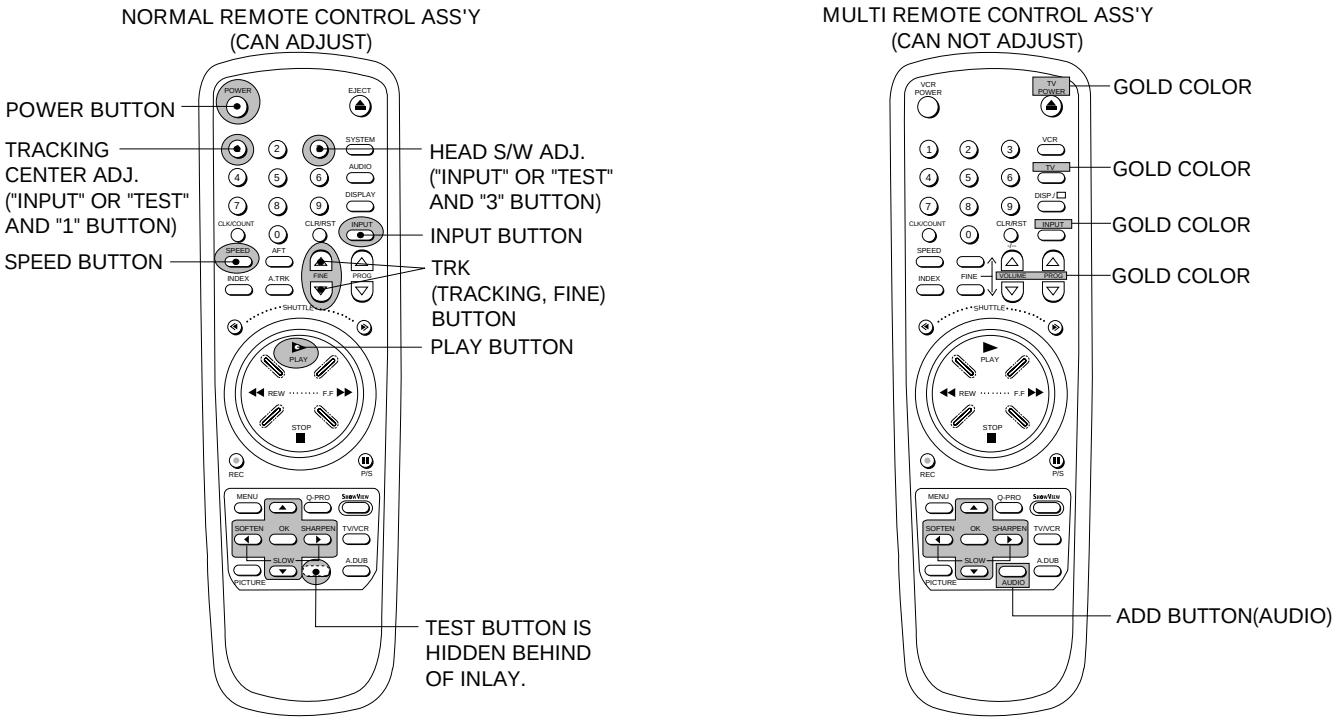

NORMAL REMOTE CONTROL ASS'Y (CAN ADJUST)
POWER BUTTON
TRACKING CENTER ADJ. ("INPUT" OR "TEST" AND "1" BUTTON)
SPEED BUTTON
HEAD S/W ADJ. ("INPUT" OR "TEST" AND "3" BUTTON)
INPUT BUTTON
TRK (TRACKING, FINE) BUTTON
PLAY BUTTON
TEST BUTTON IS HIDDEN BEHIND OF INLAY.
MULTI REMOTE CONTROL ASS'Y (CAN NOT ADJUST)
GOLD COLOR
GOLD COLOR
GOLD COLOR
GOLD COLOR
ADD BUTTON(AUDIO)

Fig. 5-2 Remote Control Ass'y for X-7/X-8 Chassis

5-2 Mechanical Adjustment

Note : Refer to the Mechanical Manual "DX7-A/DX7-AC/DX8-A/DX8-AC (AC68-20392A)" for the adjustment and confirmation of ass'y full deck.

5-2-1 The number and position of test point

Test point : TP601 (CTL Pulse)
TP602 (H'D S/W -Trigger)
TP301 (Envelope)
TP302 (Audio out)

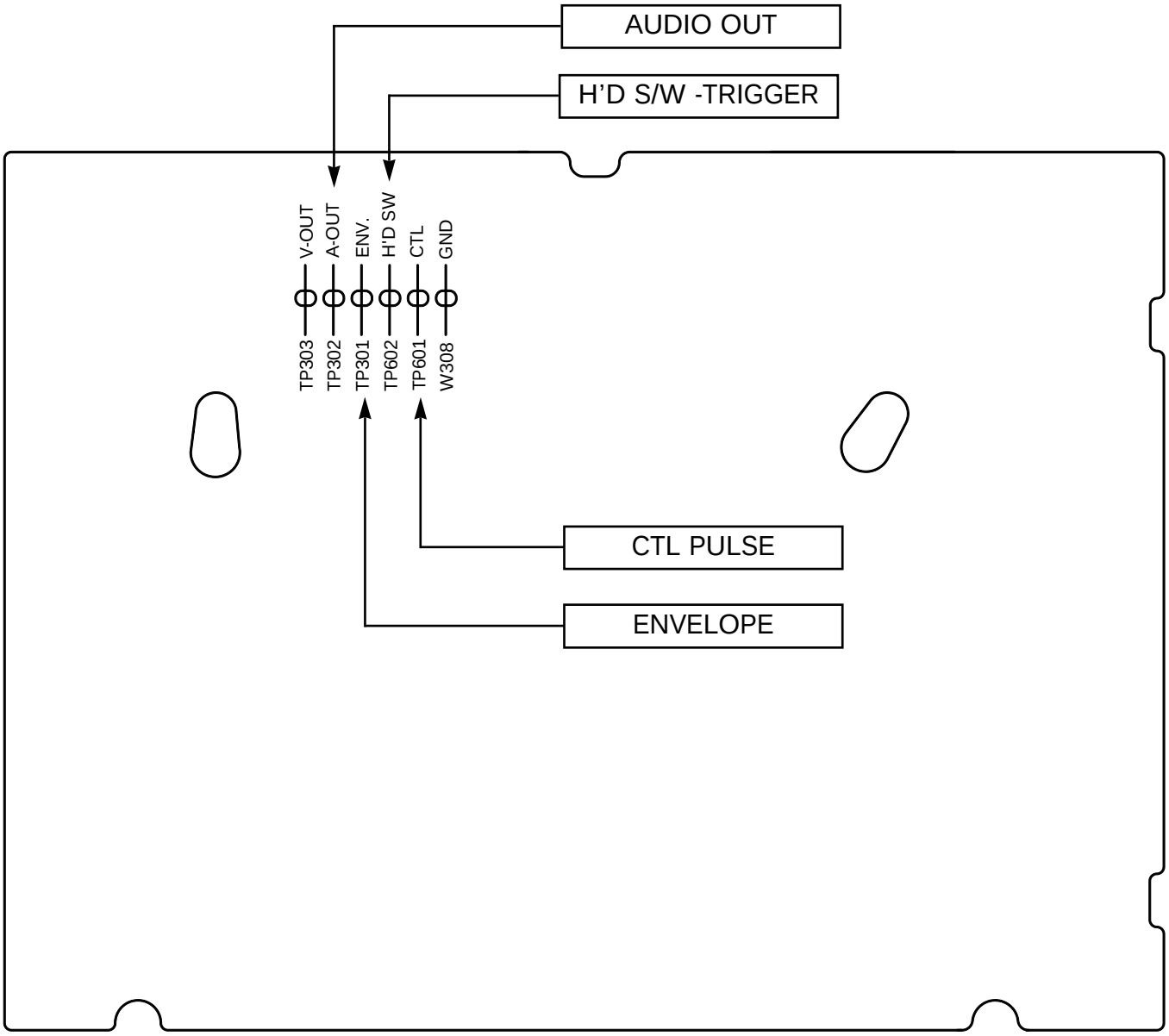


Fig. 5-3 The position of test point (Main PCB-Component side)

5-2-2 X-Point(Tracking center) adjustment (See the 2-2-1 (d) AC HEAD POSITION(X-POINT) ADJUSTMENT on page 2-3 of the mechanical manual)

5-2-2 (a) IF THE REMOTE CONTROL ASS'Y IS NOT AVAILABLE

1. Playback the colorbar alignment tape.
2. Connect CH-1 scope probe to "TP601" and CH-2 scope probe to "TP602". And then, trigger head switching pulse.
3. Set tracking preset to 2.7msec, using the "**FINE (Tracking)**" button (^) / (v) of the other remote control ass'y except the remote control ass'y jig for X-5/X-6 chassis and the normal remote control ass'y for X-7/X-8 chassis.
4. Insert the adjusting driver (+) into X-position adjusting gear. Adjust the driver in either direction for maximum envelope waveform.

Note : Since the adjusting gear unit may be damaged, do not adjust by force when adjusting the X-point using the adjusting driver (+). After turn the X-point adjusting screw (D) counterclockwise a little, perform the adjustment. After adjustment is completed, tighten the screw.

<Setting of scope>
- Volt/div. : CH-1 = 0.1V
  CH-2 = 0.2V
- Time/div. : 5msec

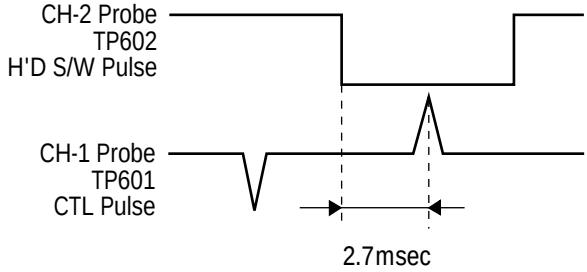


Fig. 5-4 Tracking preset adjustment

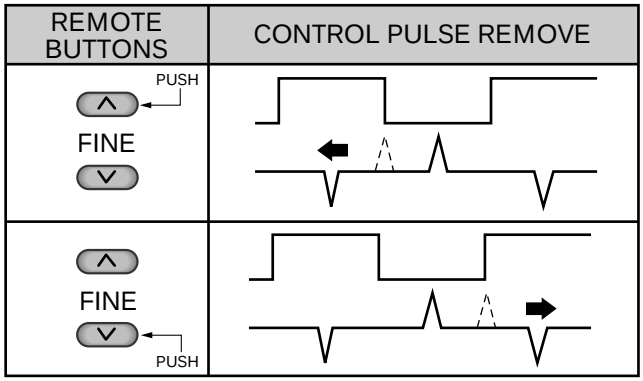


Fig. 5-5 Tracking preset adjustment

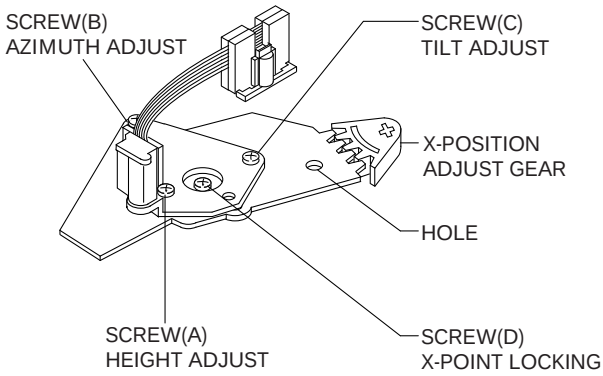


Fig. 5-6 Location of A/C Head adjustment screw

5-2-2 (b) IF THE REMOTE CONTROL ASS'Y (AC93-10039Y/69099-633-252) IS AVAILABLE

Note : How to use the "**TEST**" button.
1. Disattach the inlay of remote control ass'y. (See Fig. 5-1 and Fig. 5-2)
2. Press the "TEST" button with the pincers and the precise driver as shown in Fig. 5-1 and 5-2)

1. When using the "**INPUT**" button of remote control ass'y;

1) Simultaneously press the "**INPUT**" button and "**1**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**Tracking)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Simultaneously press the "**TEST**" button and "**5**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**Tracking)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

5-2-2 (b) IF THE NORMAL REMOTE CONTROL ASS'Y OF X-7/X-8(DX7-R/DX7-RC/ DX8-R/DX8-RC) CHASSIS IS AVAILABLE

Note 1 : Two kinds of remote control ass'y are used for X-7/X-8(DX7-R/DX7-RC/DX8-R/ DX8-RC) chassis.

1. One is a normal remote control ass'y, the other is a multi remote control ass'y
2. All adjustments are adjusted by normal remote control ass'y only.
3. For the identification of normal remote control ass'y and multi remote control ass'y, See page 5-1.

Note 2 : How to use the "**TEST**" button.

1. Disattach the inlay of remote control ass'y. (See Fig. 5-1 and Fig. 5-2)
2. Press the "TEST" button with the pincers and the precise driver as shown in Fig. 5-1 and 5-2)

1. When using the "**INPUT**" button of remote control ass'y;

1) Simultaneously press the "**INPUT**" button and "**1**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**Tracking)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Simultaneously press the "**TEST**" button and "**5**" button in PB mode.
   This will adjust the tracking center automatically.
2) Set the tracking preset using the "**FINE** (**Tracking)** button of remote control.
3) After adjustment is completed, press the "**POWER**" button to release.

5-3 Electrical Adjustment

5-3-1 Head S/W Adjustment

Note : Only remote control ass'y can adjust.

5-3-1 (a) IF REMOTE CONTROL ASS'Y (AC93-10039Y/69099-633-252) IS AVAILABLE

1. When using the "**INPUT**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**INPUT**" button and "**3**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After the adjustment is completed, press "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**TEST**" button and "**SP/LP**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After adjustment is completed, press the "**POWER**" button to release.

5-3-1 (b) IF NORMAL REMOTE CONTROL ASS'Y FOR X-7/X-8(DX7-R/DX7-RC/ DX8-R/DX8-RC) CHASSIS IS AVAILABLE

1. When using the "**INPUT**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**INPUT**" button and "**3**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After the adjustment is completed, press "**POWER**" button to release.

2. When using the "**TEST**" button of remote control ass'y ;

1) Insert an SP tape into the housing ass'y.
2) Press the "**PLAY**" button.
3) Press the "**TEST**" button and "**SPEED**" button simultaneously.
4) This will adjust the head S/W point adjustment automatically.
5) After adjustment is completed, press the "**POWER**" button to release.

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6. Exploded View and Parts List

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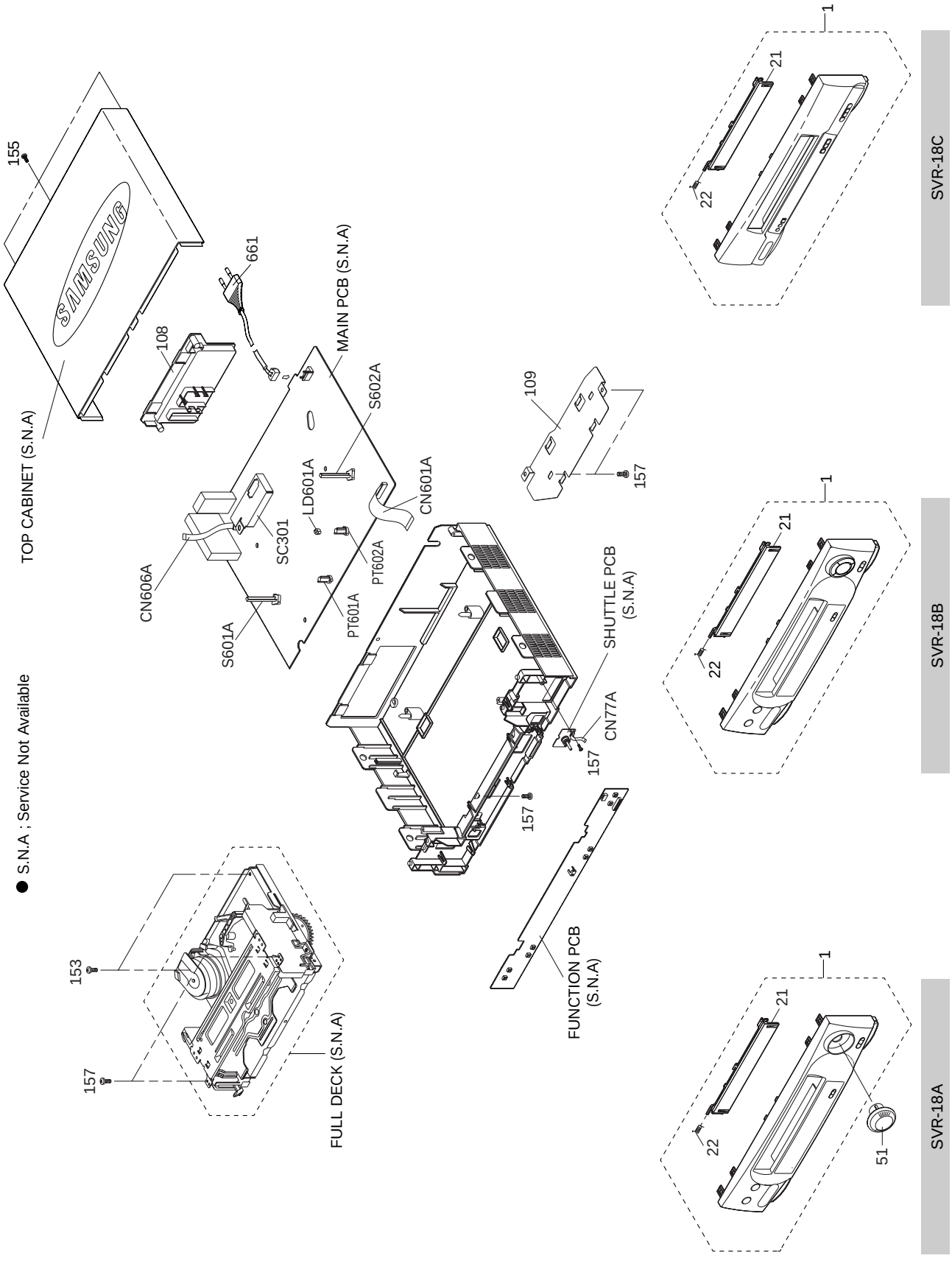
6-2 Mechanical Parts (Top Side) - 6-4

6-3 Mechanical Parts (Bottom Side) - - - - - - - - - - - - - - - - - - 6-6

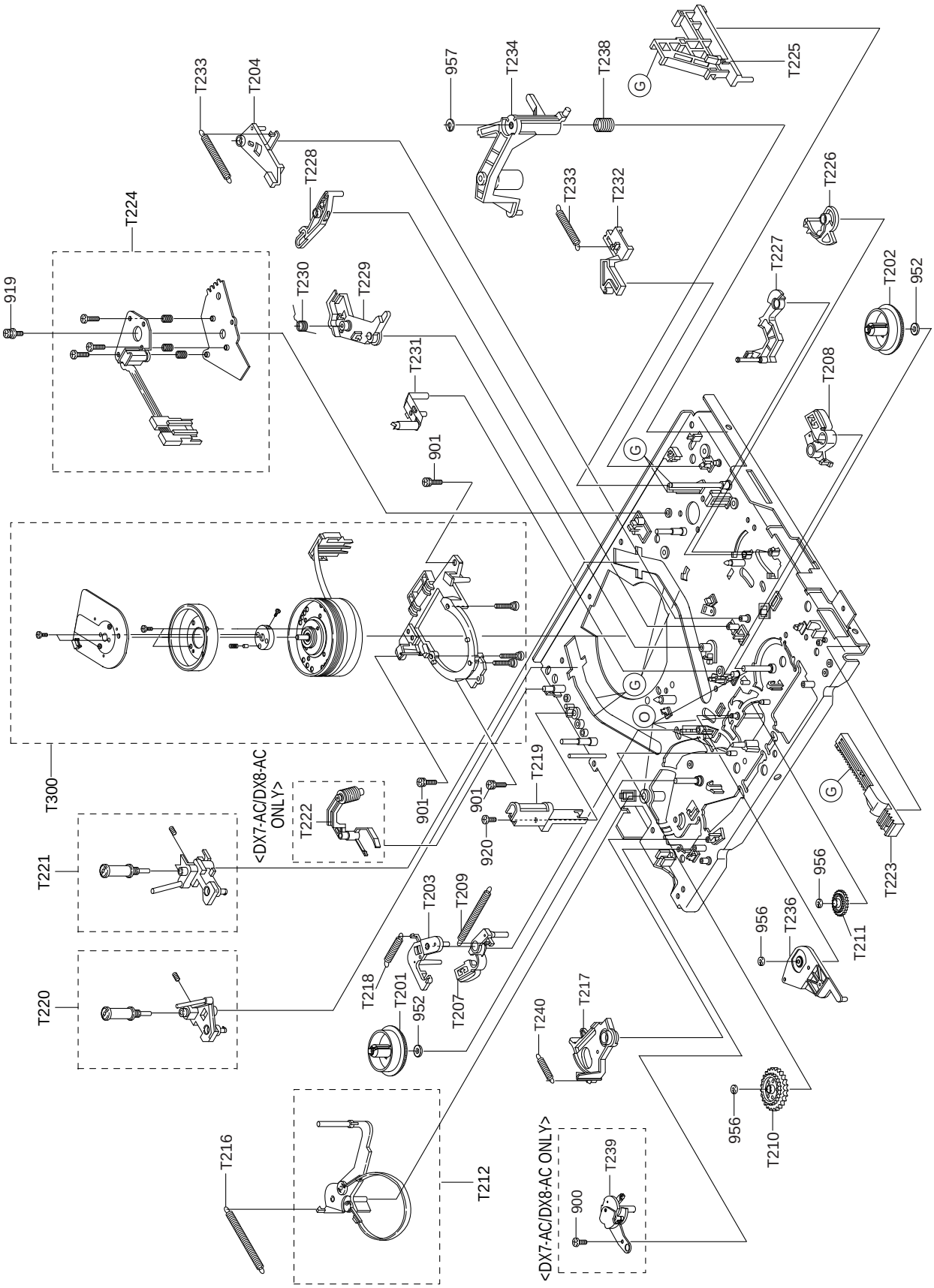
6-4 Housing Assembly - 6-8

6-1 Cabinet Assembly



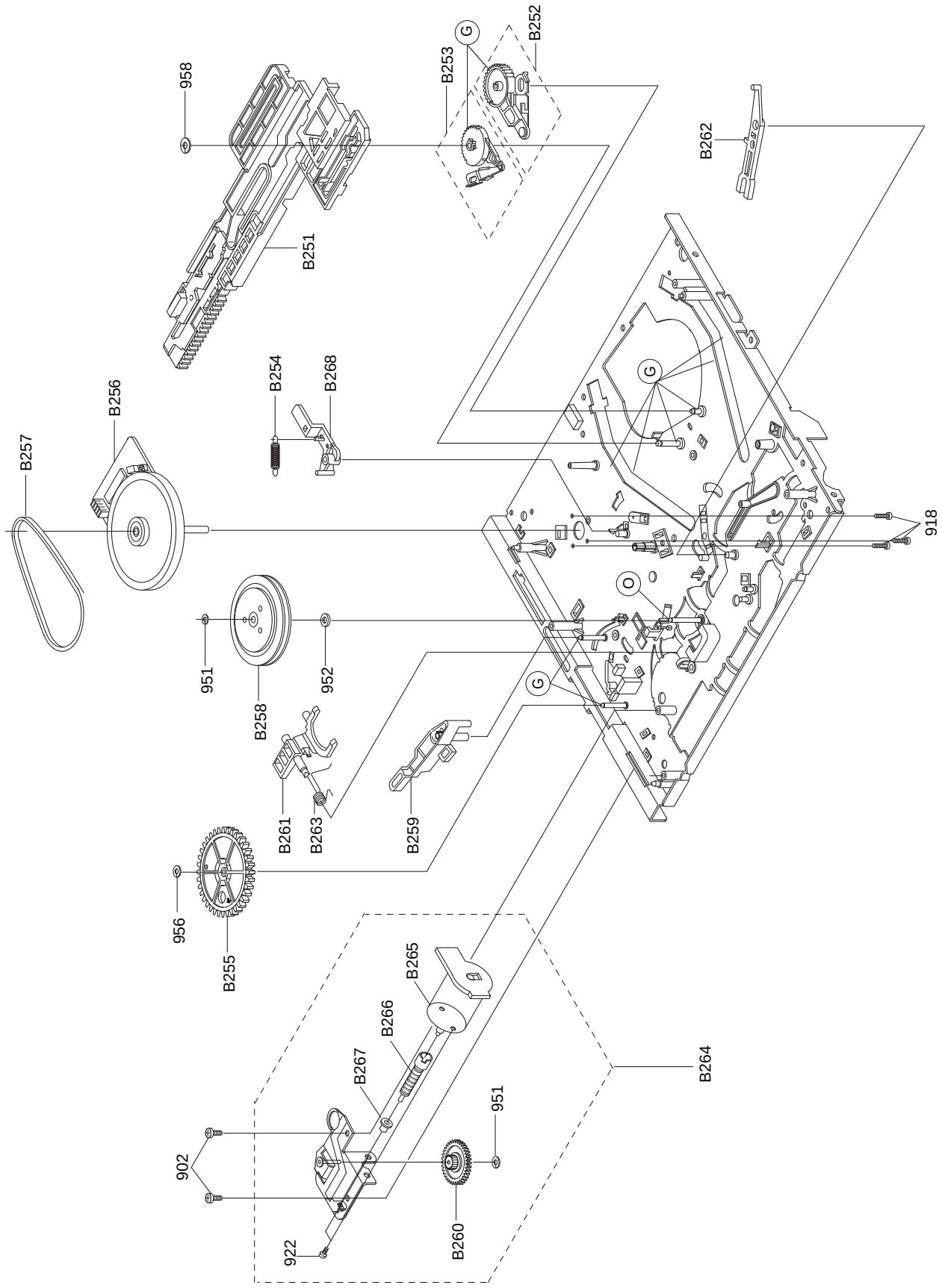
Loc. No	Part No	Description and Specification	Remark
1	AC98-11240B	ASSY-PANEL FRONT	SVR-18A
	AC98-11249D	ASSY-PANEL FRONT	SVR-18B
	AC98-11249F	ASSY-PANEL FRONT	SVR-18C
21	AC64-50928R	DOOR-CASSETTE	SVR-18A
	AC64-50928X	DOOR-CASSETTE	SVR-18B
	AC64-50928Y	DOOR-CASSETTE	SVR-18C
22	AC61-62003A	SPRING;-,SUS304,(GE/RCA),-,-,-,-	
51	AC98-12073D	ASSY KNOB-SHUTTLE;SV-B10G,-	
108	AC61-11004B	ASSY-CONNECTOR BOARD	
109	AC63-30514A	COVER-BOTTOM;SV-A120U,SECC,-,T0.5,-,-	
153	AC60-12126A	SCREW-BH;-,BH,-,4*12,FE,FZY,-,-,-	
155	AC60-12134A	SCREW-TAP BH;-,BH,-,2-4X16,-,FE	
157	AC60-10063A	SCREW-TAPTITE;BH,+,-,M3,L12,ZPC3,SWRCH18	
661	AC39-10019A	POWER-CORD	
CN601A	3809-001090	CABLE-FLAT;30V,80C,100mm,22P,1.0mm,UL289	
CN606A	3809-001048	CABLE-FLAT;30V,80C,110mm,6P,1.25mm,UL289	
CN77A	3809-001094	CABLE-FLAT;30V,80C,40mm,5P,1.25mm,UL2896	
LD601A	AC61-22345A	HOLDER-LED;POM,-,-,-,-,-	
PT601A	AC61-22344A	HOLDER-PHOTO;POM,-,-,-,-,-	
PT602A	AC61-22344A	HOLDER-PHOTO;POM,-,-,-,-,-	
S601A	AC61-22321A	HOLDER-TR;POM,-,-,-,-,-	
S602A	AC61-22321A	HOLDER-TR;POM,-,-,-,-,-	
SC301	AC98-12023J	ASSY-S/C P/AMP TOP	

6-2 Mechanical Parts (Top Side)



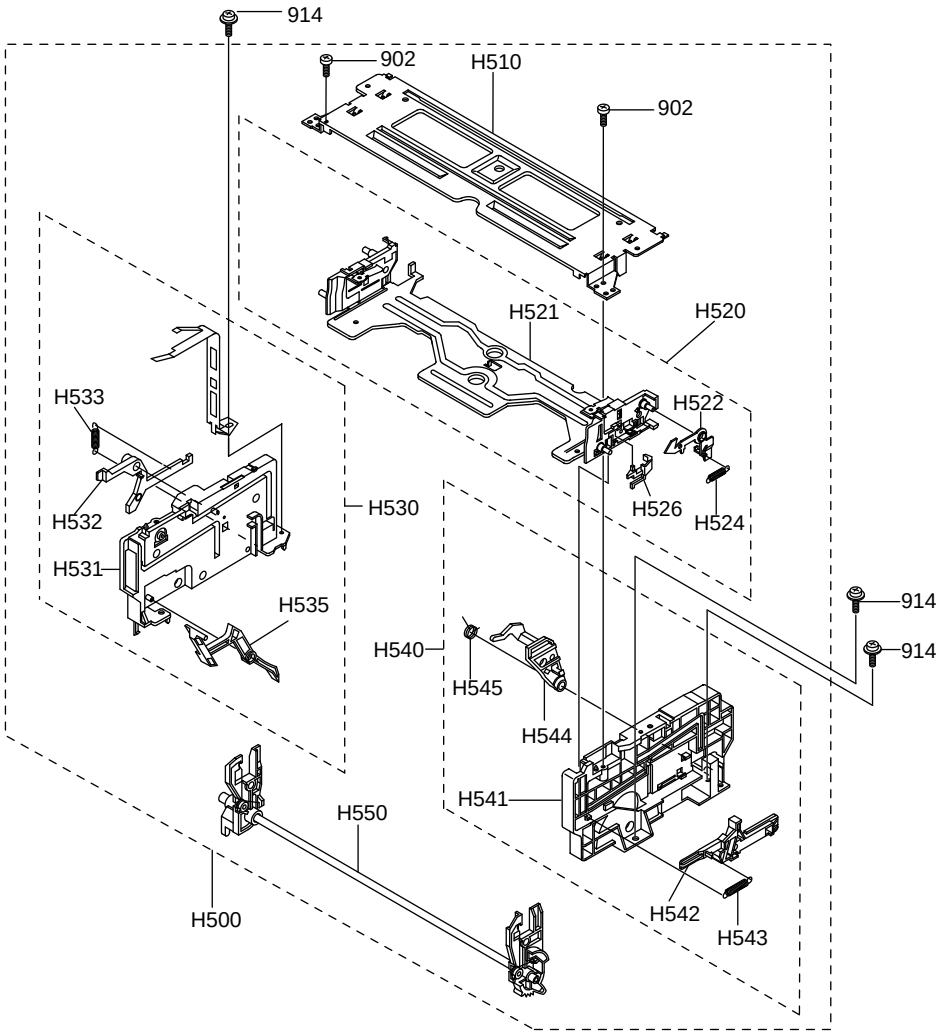
Loc. No	Part No	Description and Specification	Remark
900	AC60-12091A	SCREW-MACHINE;FP,BH,-,M3,L4,SWRCH10A,YEL ROB	(OPTIONAL)
901	AC60-10012A	SCREW-MACHINE;BH,+,M3,L8,-,FE,-,-,-	
919	AC60-10004A	SCREW-MACHINE;BH,+,M3,L8,ZPC,SWRCH18A,-,	
920	AC60-10007A	SCREW-TAPPING;BH,+,M2.6,L12,-,SWRCH18A,-	
952	AC60-30018A	WASHER-PLAIN;PLAIN,M3.2,D6,T0.5,POLYSLID	
956	AC60-30007A	WASHER-SLIT;PLAIN,ID2.5,OD7,T0.5,SPC1,-,	
957	AC60-30008A	WASHER-SLIT;-,ID3.5,OD9,T0.5,SPC1,-,-	
T201	AC66-10023A	REEL-DISK L ASSY;POM,-,PACKAGE,X-5,-	
T202	AC66-10022A	REEL-DISK R (ASSY);POM,-,PACKAGE,X-5,-	
T203	AC66-30474A	BRAKE-SUB L;-,PBT,-,-,-,X-5/IS	
T204	AC66-30148A	BRAKE SUB R;-,-,-,-,X5,-	
T207	AC66-30475A	BRAKE-MAIN L ASS'Y;-,POM+PELT,-,-,-,X-5/	
T208	AC66-30476A	BRAKE-MAIN R ASS'Y;-,POM+PELT,-,-,-,X-5/	
T209	AC61-60112A	SPRING- BRAKE MAIN;ES,SUS304WPB,PI0.35,I	
T210	AC66-20073A	GEAR RELAY S-ASSY;-,-,-,-,-,X5,-	
T211	AC66-20037A	GEAR- RELAY T;PEBAX7033,X-5,Z39,GEAR-SPU	
T212	AC66-30073A	ARM-TENSION ASSY;-,DX5-R,-,-,-,-	
T216	AC61-60119A	SPRING TENSION;ES,SWPB,PI0.4,D3,L33(OD3.	
T217	AC66-30470A	LEVER-REC S/W;-,PBT #3300,T4.0,L32,-,(X-	
T218	AC61-62017A	SPRING-SUB BRAKE L;ES,SUS304,PI0.23,D3.5	
T219	AC33-10003P	HEAD- MAGNET F/E;MH131S,-,-,-,L51.05XW7.	
T220	AC66-82050A	SLIDER-G/R ASSY(S);-,-,-,-,X-5	
T221	AC66-82054A	SLIDER-G/R ASSY(T);-,-,-,-,X-5	
T222	AC33-10002E	HEAD-CLEANER;-,-,-,X-5	(OPTIONAL)
T223	AC66-20065A	RACK-HOUSING;L74.29,POM M90-44,BLK,M1,3.	
T224	AC33-10216K	HEAD-ACE ALL ASSY;-,-,-,-,X-7A	
T225	AC66-80005A	SLIDER-PINCH;POM(M90-44),T10.5,L54.35,NA	
T226	AC66-30014A	LEVER-REVIEW;ZYTEL(70G-43L),T5,-,PCD25.6	
T227	AC66-30099A	ARM-REVIEW ASSY;-,-,-,-,DX5-R,-	
T228	AC66-30013A	LEVER- CAM;PBT 6300T,-,L45,W9,X-5,-	
T229	AC66-30003A	LEVER-PINCH COMP;PBT 3300,T7.5,L45.25,-,	
T230	AC61-60116A	SPRING- PINCH COMP;TS,SWPB,PI1.0,D6,L38(	
T231	AC67-32001A	PRISM-LED;PMMA,D5,IF-850,-,-,-	
T232	AC66-82049A	SLIDER-PUSH;LUPOX 2150,T2,-,NTR,-	
T233	AC61-62016A	SPRING-SLIDE PUSH;ES,SUS304WPB,PI0.55,D3	
T234	AC59-90402A	UNIT-PINCH ROLLER;X-7A,RESIN BEARING	
T236	AC66-10010A	IDLER-ASSY;PACKAGE,-,X-5,-	
T238	AC61-60132A	SPRING ARM PINCH;CS,SUS304WPB,PI0.4,D7.1	
T239	AC66-30132A	LEVER JOG-ASS'Y;-,-,-,X-5	(OPTIONAL)
T240	AC61-60505A	SPRING-REC S/W;-,ES,SUS304 WPB,PI0.29,PI	
T300	AC96-10475D	ASSY-CYLINDER;CX8A-S2P	

6-3 Mechanical Parts (Bottom Side)



Loc. No	Part No	Description and Specification	Remark
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
918	AC60-10041A	SCREW-TAPPING;BH,+,-,M2.6XL7.5,ZPC3	
922	AC60-10504A	SCREW-MACHINE;-,PH,+,-,M3,L3,FE,FZY,YEL	
951	AC60-30025A	WASHER-SLIT;-,ID2.5,OD5.0,T0.5,POLY SLID	
952	AC60-30018A	WASHER-PLAIN;PLAIN,M3.2,D6,T0.5,POLYSLID	
956	AC60-30007A	WASHER-SLIT;PLAIN,ID2.5,OD7,T0.5,SPC1,-,	
958	AC60-30028A	WASHER-SLIT;-,D2.5,D9.0,T0.5,NUMIRROR,-,	
B251	AC66-82043A	SLIDER-MAIN;TOPEX 4010S,-,-,-,-	
B252	AC66-20019A	GEAR-LOADING L ASSY;-,-,-,PACKAGE,-,X-5,	
B253	AC66-20069A	GEAR-LOADING R ASSY;-,-,-,-,-,X5,-	
B254	AC61-60115A	SPRING-BRAKE CAPSTAN;ES,SUS304WPB,PI0.4,	
B255	AC66-20004A	GEAR-MASTER;POM (M90-44),M 1,Z 60,SP,-,X	
B256	AC31-12006A	MOTOR-D/D CAPSTAN;DMVCMC07A,-,-	
B257	AC66-62008A	BELT-CAPSTAN;-,DLB-601,T2,8,L134.9,BLK,X	
B258	AC66-20066A	GEAR-CLUTCH ASSY;X-5,-,-,-,-,-,-	
B259	AC66-32185A	LEVER-SLIDER PINCH;PBT,T4,NAT,-,-,-	
B260	AC66-20016A	GEAR- WORM WHEEL;POM SW-01,M0.55/M1,Z57/	
B261	AC66-30011A	LEVER- SHIFT;PBT2002K,T10.9,L35,-,-,-	
B262	AC66-30012A	LEVER- IDELR CHANGE;PBT330,T33,L50,-,W6.	
B263	AC61-60111A	SPRING-LEVER SHIFT;TS,SWPB,PI0.7,D5.5,L1	
B264	AC59-90001A	UNIT-LOADING ASSY;X-5,-,-	
B265	AC31-12015A	MOTOR-LOADING ASSY;POM+RF370C X-5	
B266	AC66-20039A	GEAR- WORM LO;PBT 2002K,-,-,-,D4.5,3,-	
B267	AC61-20224A	HOLDER SHAFT;POM M90-44,T1.25,NTR,PI5XH5	
B268	AC66-30149A	BRAKE CAPSTAN;-,-,-,-,X5,-	

6-4 Housing Assembly



Loc. No	Part No	Description and Specification	Remark
902	AC60-10051A	SCREW-TAPPING;BH,-,-,M3,L8,FZY	
914	AC60-10067A	SCREW-TAPTITE;PWH,+,-,M3,L8,MFZN2-C,SWCH	
H500	AC61-82014D	HOUSING-ASSY;-,X7FL26280B,230X130X60,-,X	
H510	AC61-10006A	CHASSIS- UPPER;SECC 20/20,-,T1.0,BLK,-,X	
H520	AC61-20932B	HOLDER-CASSETTE ASSY;-,X5FL06080A,-,-,-	
H521	AC61-20922B	HOLDER-CASSETTE;-,SECC T1.2,-,NAT,-,X-7(	
H522	AC66-30018A	LEVER-LOCK R;SECC 20/20,T1.2,L44,W32,-,-	
H524	AC61-60121A	SPRING-LEVER LOCK;ES,SUS304 WPB,PI0.2,D2	
H526	AC66-30019A	LEVER-KEY CASSETTE;LUCEL N109-LD,T2.5,L2	
H530	AC61-11033A	CHASSIS-SIDE L ASSY;-,-,-,-,-,X5FL0505A,	
H531	AC61-10004A	CHASSIS- SIDE L;ABS HF-380,-,T10,BLK,-,X	
H532	AC66-30004A	LEVER- LIGHT SHUTTER;LUCEL N109-LD,T2.5,	
H533	AC61-60142A	SPRING- LIGHT;ES,SUS304WPB,PI0.2,L11.4(O	
H535	AC66-30017A	LEVER- DOOR;LUCELN109-LD,T3.5,L74.3,W21.	
H540	AC61-11032A	CHASSIS-SIDE R ASSY;-,-,-,-,-,X5FL0505A,	
H541	AC61-10003A	CHASSIS- SIDE R;ABS HF-380,-,T10,BLK,-,X	
H542	AC66-80008A	SLIDER DAMPER;LUCEL N109-LD,T4,L87,-,-,-	
H543	AC61-60120A	SPRING-SLIDER;ES,SUS 304WPB,PI0.4,D3.8,L	
H544	AC66-30016A	LEVER- LID OPENER;LUCEL N109-LD,T4.0,L34	
H545	AC61-60123A	SPRING-LID OPENER;TS,SWPB,PI0.55,D8.9,L1	
H550	AC61-50654A	SHAFT-ARM ASSY;-,SUM24L,-,-,-,-,X-5	

7. Electrical Parts List

Loc.No	Part No	Desc & Spec	Remark
SMPS/POWER PARTS (230 VOLTAGE)			
C1D41	2401-000306	C-AL;100uF,20%,25V,GP,6.3x11mm,2.5m	
C1D42	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C1P04	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C1S01	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	⚠
C1S02	2201-000808	C-CERAMIC,DISC;2.2nF,10%,400V,Y5P,12x7.5	
C1S03	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5P,18x8,1	
C1S05	2305-001021	C-FILM,MPEF;100nF,20%,275V,TP,17.5x7x13.	
C1S11	2401-003302	C-AL;47uF,20%,400V,GP,TP,18X31.5,7.	⚠
C1S12	2201-000934	C-CERAMIC,DISC;3.3nF,20%,400V,Y5P,18x8,1	
C1S13	2201-000915	C-CERAMIC,DISC;100pF,10%,1KV,Y5P,TP,6x5,	
C1S15	2401-000905	C-AL;22UF,20%,16V,BP,-,6X11,2.5MM	
C1S16	2301-000361	C-FILM,PEF;1.2NF,10%,50V,TP,-,5MM	
C1S17	2301-000445	C-FILM,PEF;4.7nF,5%,50V,5.5x7x3mm,5mm,TP	
C1S18	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm	
C1S19	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C1S20	2301-000224	C-FILM,PEF;22nF,5%,50V,TP,7.4x3.9x13mm	
C1S21	2401-000970	C-AL;22uF,20%,50V,WT,TP,5x11,2mm	
C1S30	2401-000385	C-AL;10UF,20%,100V,GP,-,6.3X11,2.5M	
C1S32	2401-001998	C-AL;1000uF,20%,25V,GP,TP,10x20,5mm	
C1S33	2401-000306	C-AL;100uF,20%,25V,GP,6.3x11mm,2.5m	
C1S34	2401-000118	C-AL;1000uF,20%,10V,GP,TP,10x12.5,5	
C1S35	2401-000306	C-AL;100uF,20%,25V,GP,6.3x11mm,2.5m	
C1S38	2301-000129	C-FILM,PEF;100nF,5%,50V,10X9X4.3X5,5mm,T	
CN1S01	3711-000178	CONNECTOR-HEADER;1WALL,2P,1R,3.96mm,STRA	
D1D41	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D1D42	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D1D43	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D1D44	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D1P05	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D1P06	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D1S01	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S02	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S03	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S04	0402-001009	DIODE-RECTIFIER;1SR139,600V,1A,MSR	⚠
D1S11	0402-000378	DIODE-RECTIFIER;EG01C,1000V,500mA,DO-41	
D1S12	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D1S13	0402-001013	DIODE-RECTIFIER;1SR153-400,400V,800mA,DO	
D1S30	0402-001013	DIODE-RECTIFIER;1SR153-400,400V,800mA,DO	
D1S32	0402-001069	DIODE-RECTIFIER;RL10Z,200V,2A,DO,TP	
D1S33	0402-001069	DIODE-RECTIFIER;RL10Z,200V,2A,DO,TP	
F1S01	A3065-0157	FUSE;FST 250V 1.6A 20MM SEMKO S505 C	⚠
IC1P02	AC14-12001E	IC;KA7809,-,-	
IC1S13	0604-011028	PHOTO-COUPLER;PS2561-1 ST DIP	⚠
IC1S31	AC14-12006D	IC;KA431Z,TO-92,TAPING	⚠
L1S02	A1151-0042	COIL-LINE FILTER;BSF-2120Z 25MH 3.2OHM	⚠
L1S03	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
L1S12	AC27-92001M	INDUCTOR;70UH-M RT BFS3565R2F,-,-,-,-	
L1S30	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
L1S31	AC27-12001N	COIL-CHOKE;10UH-15%,RA,K-30,Q80,150KHZ,-	
PT1S11	AC26-20120C	TRANS-SWITCHING;-,100/230V,UL/CSA,EE28*2	⚠
Q1P02	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P04	0504-000118	TR-DIGITAL;KSR1003,NPN,300mW,22K-22K,TO-	
Q1P05	0501-000616	TR-SMALL SIGNAL;KSC2328A-Y,NPN,1W,TO-92L	
Q1P06	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
Q1S11	0502-001050	TR-POWER;2SC4517A,NPN,30W,TO-220,ST,10-	
Q1S12	0501-000442	TR-SMALL SIGNAL;KTC3203-Y,NPN,400MW	
R1P01	2004-001096	R-METAL;560ohm,5%,1/4W,AA,TP,2.4X6.4mm	
R1P05	2004-000571	R-METAL;220ohm,5%,1/4W,AA,TP,2.4x6.4mm	
R1P08	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P09	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1P10	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1P11	2004-001096	R-METAL;560ohm,5%,1/4W,AA,TP,2.4X6.4mm	
R1S11	2006-000262	R-CEMENT;2.7ohm,10%,2W,CB,ST,7.5x11x20.	
R1S12	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S13	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S14	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S15	2001-000305	R-CARBON;110Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S17	2006-000273	R-CEMENT;27Kohm,5%,2W,CA,BK,6.4x27x6.4m	
R1S18	2003-000264	R-METAL OXIDE;300ohm,5%,1W,AD,TP,4.3x12m	
R1S19	2001-000003	R-CARBON ;330 OHM,5%,1/8W,AA,T	
R1S20	2001-000003	R-CARBON ;330 OHM,5%,1/8W,AA,T	
R1S21	2003-000273	R-METAL OXIDE;33Kohm,5%,2W,AA,TP,6x16mm	
R1S30	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1S31	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R1S32	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R1S33	2004-000869	R-METAL;3Kohm,1%,1/8W,AA,TP,1.8x3.2mm	
R1S34	2004-000459	R-METAL;2.2Kohm,1%,1/8W,AA,TP,1.	
R1S40	2003-000119	R-METAL OXIDE;0.68ohm,5%,2W,AE,TP,6x16mm	
VA1S01	1405-001026	VARISTOR;470V,600A,9x7mm,TP	
ZD1P05	0403-000557	DIODE-ZENER;MTZ5.1C,5.1V,5.09-5.37V,500m	
ZD1S11	0403-000539	DIODE-ZENER;MTZ18C,18V,17.42-18.33V,500m	
ZD1S12	0403-000294	DIODE-ZENER;MTZ4.7B,4.55-4.80V,500mW,DO-	
ZD1S30	0403-000571	DIODE-ZENER;UZP43B,43V,40-46V,1W,DO-41,T	
SYSTEM CONTROL/SERVO PARTS			
C601	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C602	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C603	2202-000850	C-CERAMIC,MLC-AXIAL;2.2NF,30%,16V,Y5R,TP	
C604	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
C605	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C606	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C607	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
C608	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C609	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
C610	2202-000791	C-CERAMIC,MLC-AXIAL;150PF,10%,50V,Y5P,TP	
C6107	2202-000162	C-CERAMIC,MLC-AXIAL;15pF,5%,50V,SL,TP,3.	
C611	2401-001952	C-AL;4.7UF,20%,50V,-,TP,6.3X7,5	
C6114	2202-000145	C-CERAMIC,MLC-AXIAL;120PF,10%,50V,Y5P,3.	
C6119	2401-001572	C-AL;47UF,20%,50V,GP,-,6.3X11,2.5MM	
C612	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C6120	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C6126	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C613	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C614	2401-001325	C-AL;470nF,20%,50V,GP,TP,3x5,5	
C615	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
C616	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C617	2202-000216	C-CERAMIC,MLC-AXIAL;27pF,5%,50V,SL,TP,3.	
C6170	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C618	2202-000216	C-CERAMIC,MLC-AXIAL;27pF,5%,50V,SL,TP,3.	

Loc.No	Part No	Desc and Spec	Remark
C619	2202-000205	C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1.	
C620	2202-000205	C-CERAMIC,MLC-AXIAL;22pF,5%,50V,SL,TP,1.	
C621	2202-000162	C-CERAMIC,MLC-AXIAL;15pF,5%,50V,SL,TP,3.	
C622	2202-000162	C-CERAMIC,MLC-AXIAL;15pF,5%,50V,SL,TP,3.	
C623	2202-000162	C-CERAMIC,MLC-AXIAL;15pF,5%,50V,SL,TP,3.	
C624	2202-000162	C-CERAMIC,MLC-AXIAL;15pF,5%,50V,SL,TP,3.	
C625	2201-000928	C-CERAMIC,DISC;2.7NF,20%,16V,Y5R,TP,3.5X	
C626	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C627	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C628	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C630	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C631	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C632	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C634	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C635	2401-000199	C-AL;1000UF,20%,6.3V,GP,TP,10X12.5,	
C636	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C637	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C639	2202-000791	C-CERAMIC,MLC-AXIAL;150PF,10%,50V,Y5P,TP	
C640	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C641	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C642	2202-000796	C-CERAMIC,MLC-AXIAL;UP050 B102KB INF,10%	
C643	2401-001915	C-AL;1uF,20%,50V,GP,TP,3x5,1mm	
C645	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C646	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C647	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C648	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C649	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C650	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C651	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C653	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C654	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C655	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C656	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C657	2401-001978	C-AL;47UF,20%,25V,GP,TP,6.3X5,5	
C658	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C659	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C665	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C666	2202-000806	C-CERAMIC,MLC-AXIAL;220PF,10%,50V,Y5P,TP	
C667	2202-000806	C-CERAMIC,MLC-AXIAL;220PF,10%,50V,Y5P,TP	
C668	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C670	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C672	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C673	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C674	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C675	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C676	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C690	2401-001572	C-AL;47UF,20%,50V,GP,-,6.3X11,2.5MM	
C691	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C699	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
CN601	3708-001251	CONNECTOR-FPC/FC/PIC;22P,1mm,STRAIGHT-F,	
CN602	3711-002445	CONNECTOR-HEADER;BOX,2P,2R,1.5MM,STRAIGH	
CN606	3708-001165	CONNECTOR-FPC/FC/PIC;6P,1.25mm,STRAIGHT,	
CN607	3711-003749	CONNECTOR-HEADER;BOX,8P,2R,2mm,STRAIGHT,	
D602	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D604	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D605	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D606	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D607	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D609	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6102	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6104	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D6105	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D619	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D620	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
D690	0402-000132	DIODE-RECTIFIER ;1N4004,400V,1A,DO-41	
IC601	AC09-10457E	IC-MCU;HD6433976RA83F,100PIN,QFP,SVB1	
IC602	1003-001090	IC-MOTOR DRIVER;LB1643,SIP,10P,-,SINGLE,	
IC603	1201-000230	IC-OP AMP;6324,DIP,14P,-,QUAD,15/100mV,P	
IC604	AC14-12006C	IC;KA7533,DIP,-	
IC605	AC11-12001H	IC-EEPROM;24LC02B/P,DIP,-	
IC606	AC14-12001G	IC;KA78L05,T,-	
L601	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L602	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L603	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L604	2701-000131	INDUCTOR-AXIAL;15UH,5%,2.4X3.4MM	
L6101	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L6103	2701-000117	INDUCTOR-AXIAL;10uH,5%,2.4x3.4mm	
LD601	0601-000495	LED-IR;ROUND,3mm,150mW,6V,950nm,BK	
PT601	0604-000188	PHOTO-INTERRUPTER;TR,-,-,DIP-4,TR	
PT602	0604-000188	PHOTO-INTERRUPTER;TR,-,-,DIP-4,TR	
Q604	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q605	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q609	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q610	0504-000144	TR-DIGITAL;KSR2002,PNP,300mW,10K-10Kohm,	
Q6102	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q6106	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q6108	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q611	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	
R601	2001-000010	R-CARBON;68KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R603	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R604	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R605	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R607	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R608	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R609	2001-001031	R-CARBON;91KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R610	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6101	2001-000331	R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6102	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6103	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6104	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6105	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6106	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R611	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6113	2001-000008	R-CARBON;15Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6115	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6119	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R612	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6120	2001-000435	R-CARBON;1Mohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6121	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6122	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6123	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6124	2001-000633	R-CARBON;30Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6125	2001-000633	R-CARBON;30Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6128	2001-000534	R-CARBON;240ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6129	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R613	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6131	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6134	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R614	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R615	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	

Loc.No	Part No	Desc and Spec	Remark
R6150	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6151	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6152	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6153	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R6154	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6155	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6156	2001-000347	R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6157	2001-000347	R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6159	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R616	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6160	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6161	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6162	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6163	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6164	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6165	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R617	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R6170	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R618	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R619	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R620	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R621	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R622	2001-000012	R-CARBON;680Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R624	2001-000773	R-CARBON;470Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R625	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R626	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R627	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R628	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R629	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R630	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R631	2001-000435	R-CARBON;1Mohm,5%,1/8W,AA,TP,1.8x3.2mm	
R634	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R635	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R636	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R637	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R638	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R639	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R641	2001-000435	R-CARBON;1Mohm,5%,1/8W,AA,TP,1.8x3.2mm	
R643	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R644	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R645	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R648	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R649	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R651	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R656	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R659	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R660	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R663	2001-000679	R-CARBON;36KOHM,5%,1/8W,AA,TP,1.8X3.2MM	
R664	2001-000411	R-CARBON;18Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R665	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R666	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R669	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R671	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R675	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R676	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R679	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R680	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R681	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R682	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R683	2001-000832	R-CARBON;510ohm,5%,1/8W,AA,TP,1.8x3.2mm	

Loc.No	Part No	Desc and Spec	Remark
R685	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R686	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R687	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R688	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R691	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R692	2001-000347	R-CARBON;13Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R693	2001-000539	R-CARBON;24Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R694	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R695	2001-000850	R-CARBON;560Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R696	2001-000539	R-CARBON;24Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R697	2003-000259	R-METAL OXIDE;3.9OHM,5%,2W,AE,TP,6X16MM	
R698	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R699	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
RS601	3409-000176	SWITCH-DETECTOR;30Vdc,100mA,SPST,-,-	
S601	0603-000112	PHOTO-TR;NPN,35V,6V,50mA,75mW,-	
S602	0603-000112	PHOTO-TR;NPN,35V,6V,50mA,75mW,-	
SW601	AC34-22001E	SWITCH-PROGRAM;MXS00281MLB0,-,-,-,-,-,-,	
XT601	2801-003293	CRYSTAL-UNIT;10MHZ,50PPM,28-AAA,16PF,50O	
XT602	2801-003318	CRYSTAL-UNIT;32.768KHz,20ppm,28-AAP,12.5	
XT6102	2801-003311	CRYSTAL-UNIT;17.734475MHz,50ppm,28-AAA,1	
AUDIO/VIDEO PARTS			
C301	2202-000243	C-CERAMIC,MLC-AXIAL;33PF,5%,50V,SL,3.5X1	
C302	2202-000243	C-CERAMIC,MLC-AXIAL;33PF,5%,50V,SL,3.5X1	
C305	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C309	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C310	2301-000392	C-FILM,PEF;15nF,5%,50V,6.5x8.5x3.2mm,5mm	
C3101	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C314	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C315	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C316	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C317	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C320	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C321	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C322	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C324	2301-000283	C-FILM,PEF;47nF,5%,100V,TP,7.3X7X3.2X5,5	
C325	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C326	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C327	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C328	2202-000216	C-CERAMIC,MLC-AXIAL;27pF,5%,50V,SL,TP,3.	
C329	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C330	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C331	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C332	2202-000279	C-CERAMIC,MLC-AXIAL;47PF,5%,50V,SL,3.5X1	
C333	2202-000814	C-CERAMIC,MLC-AXIAL;390pF,10%,50V,Y5P,3.	
C335	2202-000162	C-CERAMIC,MLC-AXIAL;15pF,5%,50V,SL,TP,3.	
C336	2201-000376	C-CERAMIC,DISC;220pF,5%,50V,SL,TP,4x4,5	
C340	2401-001965	C-AL;470NF,20%,50V,-,BK,4X7MM,1.5MM	
C341	2401-001917	C-AL;1UF,20%,50V,-,TP,5X7MM,5	
C342	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C343	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C344	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C345	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C346	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C347	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
C348	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C349	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C350	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C351	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C352	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C353	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	

Loc.No	Part No	Desc and Spec	Remark
C355	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C356	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C357	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C358	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C359	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C360	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C361	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C362	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C363	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
C364	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C366	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C367	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C368	2202-000854	C-CERAMIC,MLC-AXIAL;47NF,30%,50V,Y5R,TP,	
C369	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C370	2301-000283	C-FILM,PEF;47nF,5%,100V,TP,7.3X7X3.2X5,5	
C371	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C373	2301-000439	C-FILM,PEF;3NF,5%,50V,TP,5.5X7X3MM,5MM	
C374	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
C375	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C376	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C377	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C380	2401-001905	C-AL;10UF,20%,16V,BP,BK,6X11MM,2.5M	
C390	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C391	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C3A01	2401-001893	C-AL;100uF,20%,16V,GP,TP,6.3x7mm,5	
C3A02	2301-000283	C-FILM,PEF;47nF,5%,100V,TP,7.3X7X3.2X5,5	
C3A03	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C3A04	2301-000299	C-FILM,PEF;6.8nF,5%,100V,TP,5.8x12.5mm,5	
C3A05	2301-000445	C-FILM,PEF;4.7nF,5%,50V,5.5x7x3mm,5mm,TP	
C3A06	2301-000408	C-FILM,PEF;2.7nF,5%,50V,5.5x7x3mm,5mm,TP	
C3A07	2301-000400	C-FILM,PEF;1NF,10%,50V,TP,5X7X2.8MM,5MM	
C3A08	2401-001917	C-AL;1UF,20%,50V,-,TP,5X7MM,5	
C3A09	2401-003122	C-AL;4.7UF,20%,50V,LL,TP,4X7,1.5	
C3A10	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C3A11	2401-001904	C-AL;10UF,20%,16V,-,TP,4X7MM,5	
C3A12	2301-000381	C-FILM,PEF;10nF,5%,50V,TP,6.5x5.5x3mm,5m	
C3A15	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
C3A16	2401-001917	C-AL;1UF,20%,50V,-,TP,5X7MM,5	
C3A17	2301-000299	C-FILM,PEF;6.8nF,5%,100V,TP,5.8x12.5mm,5	
C3A18	2301-000299	C-FILM,PEF;6.8nF,5%,100V,TP,5.8x12.5mm,5	
C3A19	2301-000314	C-FILM,PEF;8.2nF,5%,50V,TP,6.5x3.0x5.5mm	
C3A21	2401-000918	C-AL;22uF,20%,16V,GP,-,6.3x7,5	
C3A22	2301-000217	C-FILM,PEF;220nF,5%,50V,8.0X9.5X4.5X5,5m	
C3A23	2401-001169	C-AL;33UF,20%,16V,GP,-,6.3X7,2.5MM	
C3A24	2301-000217	C-FILM,PEF;220nF,5%,50V,8.0X9.5X4.5X5,5m	
C3A25	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C3A26	2401-001511	C-AL;47UF,20%,16V,GP,-,6X7,5	
C3A27	2401-003122	C-AL;4.7UF,20%,50V,LL,TP,4X7,1.5	
C3A28	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C3A29	2301-000381	C-FILM,PEF;10nF,5%,50V,TP,6.5x5.5x3mm,5m	
C3A30	2301-000392	C-FILM,PEF;15nF,5%,50V,6.5x8.5x3.2mm,5mm	
CN301	3708-000395	CONNECTOR-FPC/FC/PIC;8P,1.25MM,STRAIGHT,	
CN3A01	3708-001053	CONNECTOR-FPC/FC/PIC;7P,1.25MM,STRAIGHT,	
CN3A02	3711-000371	CONNECTOR-HEADER;-,2P,1R,2MM,STRAIGHT,-	
D307	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
FL3A01	AC27-80100A	COIL-OSC;126QN-K5272YHC=K,-,AM	
IC301	AC14-12014L	IC-LINEAR;LA7411,DIP,PRE-AMP	
IC302	1204-001056	IC-SIGNAL PROCESSOR;SS11501M,QFP,80P,-,P MULTI	
IC302	1204-001057	IC-SIGNAL PROCESSOR;SS11511M,QFP,80P,-,P PAL ONLY	
IC303	1209-001023	IC-DELAY LINE;SS23377M,SOP,14P,225MIL,PL PAL ONLY	
IC303	1209-001024	IC-DELAY LINE;SS23378M,SOP,14P,225MIL,PL MULTI	
L301	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L303	2701-000206	INDUCTOR-AXIAL;56UH,5%,2.4X3.4MM	
L304	2701-000206	INDUCTOR-AXIAL;56UH,5%,2.4X3.4MM	
L308	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L3A02	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L3A03	2702-000120	INDUCTOR-RADIAL;15mH,5%,6.2x7.4mm	
L3A04	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
Q302	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q303	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q304	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q308	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	
Q309	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q310	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q312	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q324	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q3A01	0501-000231	TR-SMALL SIGNAL;2SD1468SQ,NPN,300MW,TO-9	
Q3A02	0501-000231	TR-SMALL SIGNAL;2SD1468SQ,NPN,300MW,TO-9	
Q3A03	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
Q3A04	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q3A05	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
Q3A06	0504-000203	TR-DIGITAL;KSR1004,NPN,300mW,47K-47K,TO-	
R302	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R303	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R305	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R306	2001-000864	R-CARBON;56Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R307	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R309	2001-000577	R-CARBON ;2KOHM,5%,1/8W,AA,TP,	
R310	2001-000613	R-CARBON ;3.9K OHM,5%,1/8,AA,T	
R311	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R312	2001-000577	R-CARBON ;2KOHM,5%,1/8W,AA,TP,	
R314	2001-000554	R-CARBON;270OHM,5%,1/8W,AA,TP,1.8X3.2MM	
R315	2001-000613	R-CARBON ;3.9K OHM,5%,1/8,AA,T	
R316	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R317	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R318	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R319	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R320	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R321	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R322	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R323	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R324	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R328	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R329	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R331	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R332	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R333	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R337	2001-000472	R-CARBON;2.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R338	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R339	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R340	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R341	2001-000472	R-CARBON;2.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R350	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R383	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R384	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R385	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R399	2001-000003	R-CARBON ;330 OHM,5%,1/8W,AA,T	
R3A02	2001-000405	R-CARBON ;180 OHM,5%,1/8W,AA,T	
R3A03	2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A04	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	

Loc.No	Part No	Desc and Spec	Remark
R3A05	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A06	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A07	2001-000458	R-CARBON;2.2ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A08	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A09	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A10	2001-000241	R-CARBON;1.5Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A11	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A12	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A13	2001-000645	R-CARBON;330Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A14	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A15	2001-000331	R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A17	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R3A19	2001-000221	R-CARBON;1.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A20	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A22	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A24	2001-000454	R-CARBON;2.2Mohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A25	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A26	2001-000947	R-CARBON;7.5KOHM,5%,1/8W,AA,TP,1.8X3.2M	
R3A27	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A28	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R3A29	2001-000006	R-CARBON;2.4Kohm,5%,1/8W,AA,TP,1.8x3.2m	
R3A30	2001-000613	R-CARBON ;3.9K OHM,5%,1/8,AA,T	
R3A31	2001-000613	R-CARBON ;3.9K OHM,5%,1/8,AA,T	
R3A32	2001-000904	C-CARBON ;620OHM,5%,1/8,AA.TP,	
XT301	2801-003610	CRYSTAL-UNIT;3.579545MHz,8ppm,28-AAA,S,1	
XT302	2801-001397	CRYSTAL-UNIT;4.433619MHZ,HC-49/U-S 15PPM	
I/O PARTS			
C401	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C402	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C403	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C404	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C405	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C415	2401-001572	C-AL;47UF,20%,50V,GP,-,6.3X11,2.5MM	
C450	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C451	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C801	2202-000780	C-CERAMIC,MLC-AXIAL;100nF,+80-20%,50V,Y5	
C802	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C803	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
C804	2201-000823	C-CERAMIC,DISC;270PF,5%,50V,SL,TP,5X3,5	
C805	2201-000872	C-CERAMIC,DISC;82PF,5%,50V,CH,TP,13X4,5	
C807	2201-000872	C-CERAMIC,DISC;82PF,5%,50V,CH,TP,13X4,5	
C809	2401-002197	C-AL;4.7UF,20%,25V,GP,TP,4X7,5MM	
JC801	AC37-20001H	JACK-RCA;DPAM-,4P,MONO,PI3.3	
JC802	AC37-20001M	JACK-DC;DUAE-9519,4P/2C,DC,DLK	
L401	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L403	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
L801	2701-000181	INDUCTOR-AXIAL;33UH,5%,2.4X3.4MM	
Q801	0501-000303	TR-SMALL SIGNAL;KSA733,PNP,250mW,TO-92,T	
Q802	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
R401	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R402	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R801	2001-001026	R-CARBON;910ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R802	2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R803	2001-000780	R-CARBON;470ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R804	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R805	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R806	2001-000969	R-CARBON;75ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R808	2001-000508	R-CARBON ;220K OHM,5%,1/8W,AA,	
R810	2001-000007	R-CARBON;3Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
SW801	3408-000127	SWITCH-SLIDE;12V,100MA,-,-	
U401	AC40-20100G	RF-MODULATOR;RMUP74055VA,PAL MULTI	
ZD401	0403-000390	DIODE-ZENER;UZP33B,33V,31.4-34.6V,1W,DO-	
FUNCTION PARTS			
C701	2401-001893	C-AL;100uF,20%,16V,GP,TP,6.3x7mm,5	
C702	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
C703	2202-000796	C-CERAMIC,MLC-AXIAL;UP050 B102KB INF,10%	
CN701	3708-001251	CONNECTOR-FPC/FC/PIC;22P,1mm,STRAIGHT-F,	
CN703	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
D714	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D719	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D728	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D730	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D740	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D741	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D742	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D743	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D744	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
D745	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
L701	AC27-92001B	COIL-PEAKING AXIAL;BAL04ST101K,-,-,-,-	
LD701	0601-000497	LED;ROUND,GRN,3mm,565nm	
LD702	0601-000497	LED;ROUND,GRN,3mm,565nm	
LD703	0601-001201	LED;ROUND,RED,3mm,635nm	
LD704	0601-000497	LED;ROUND,GRN,3mm,565nm	
LD705	0601-000497	LED;ROUND,GRN,3mm,565nm	
Q709	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q710	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q711	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
Q712	0501-000290	TR-SMALL SIGNAL;KSA643-Y,PNP,500MW,TO-92	
R717	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R718	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R719	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R720	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R729	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R731	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R732	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R733	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R734	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R735	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R737	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R739	2001-000660	R-CARBON;33Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
R740	2001-000924	R-CARBON;680ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R741	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R742	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R743	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R744	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
R745	2001-000362	R-CARBON;150ohm,5%,1/8W,AA,TP,1.8x3.2mm	
RM701	AC59-60060A	MODULE-REMOCON;GP1U281R/SHARP 38KHZ	
SW701	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW702	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW703	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW704	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW705	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW706	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW707	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
SW709	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	

Loc.No	Part No	Desc and Spec	Remark
	-	**ASSY-SHUTTLE-OTION**	
CN707	3708-001163	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
SH701	2101-000101	VR-ROTARY;100Kohm,20%,1/10W,SIDE	
	AC59-10415A	**REMOCON-ASSY**	
	AD64-50823A	DOOR-BATTERY REMOCON;-,ABS94,HB,T1.5,L76	

Loc.No	Part No	Desc and Spec	Remark

8. Block Diagrams

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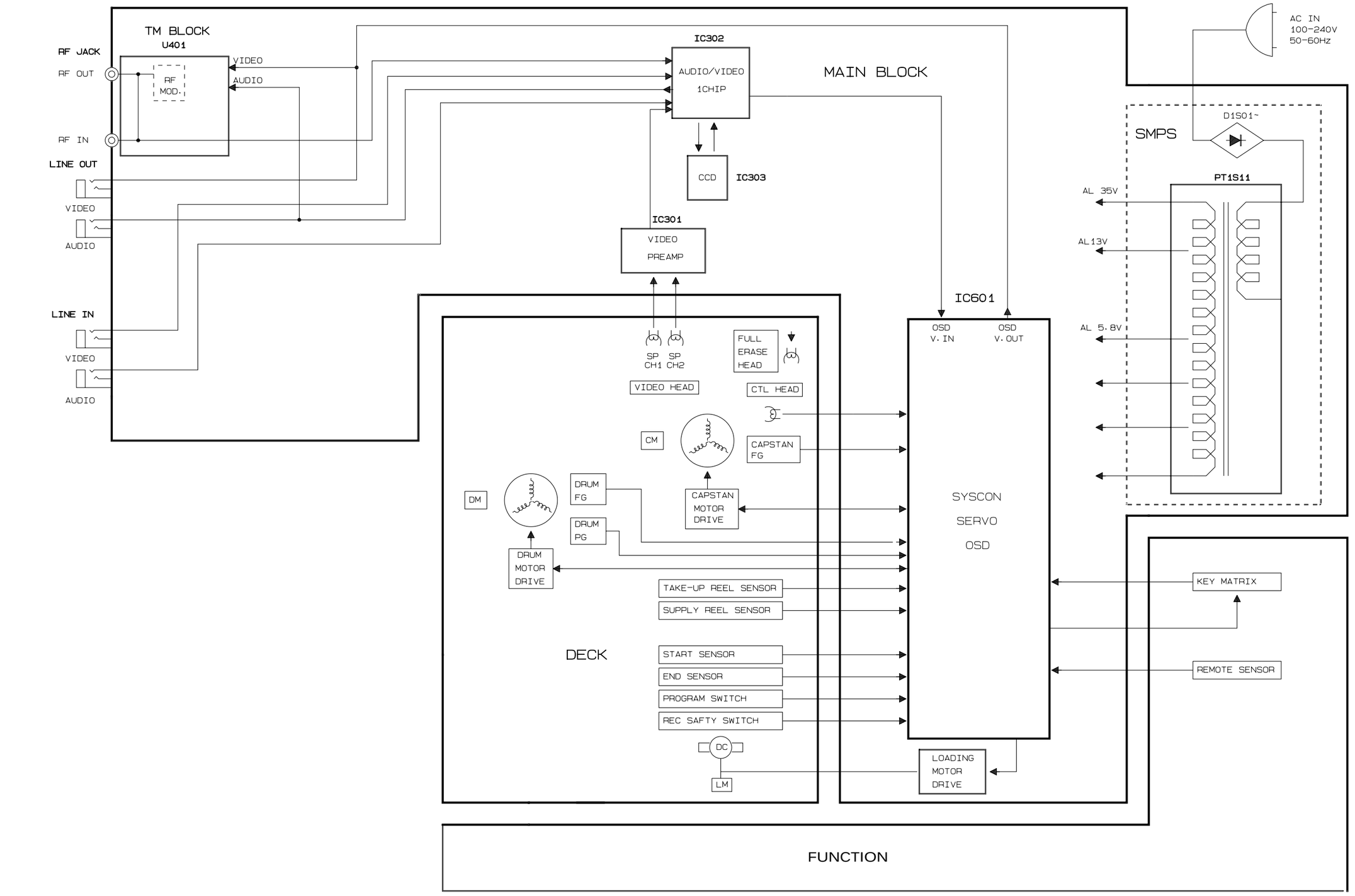
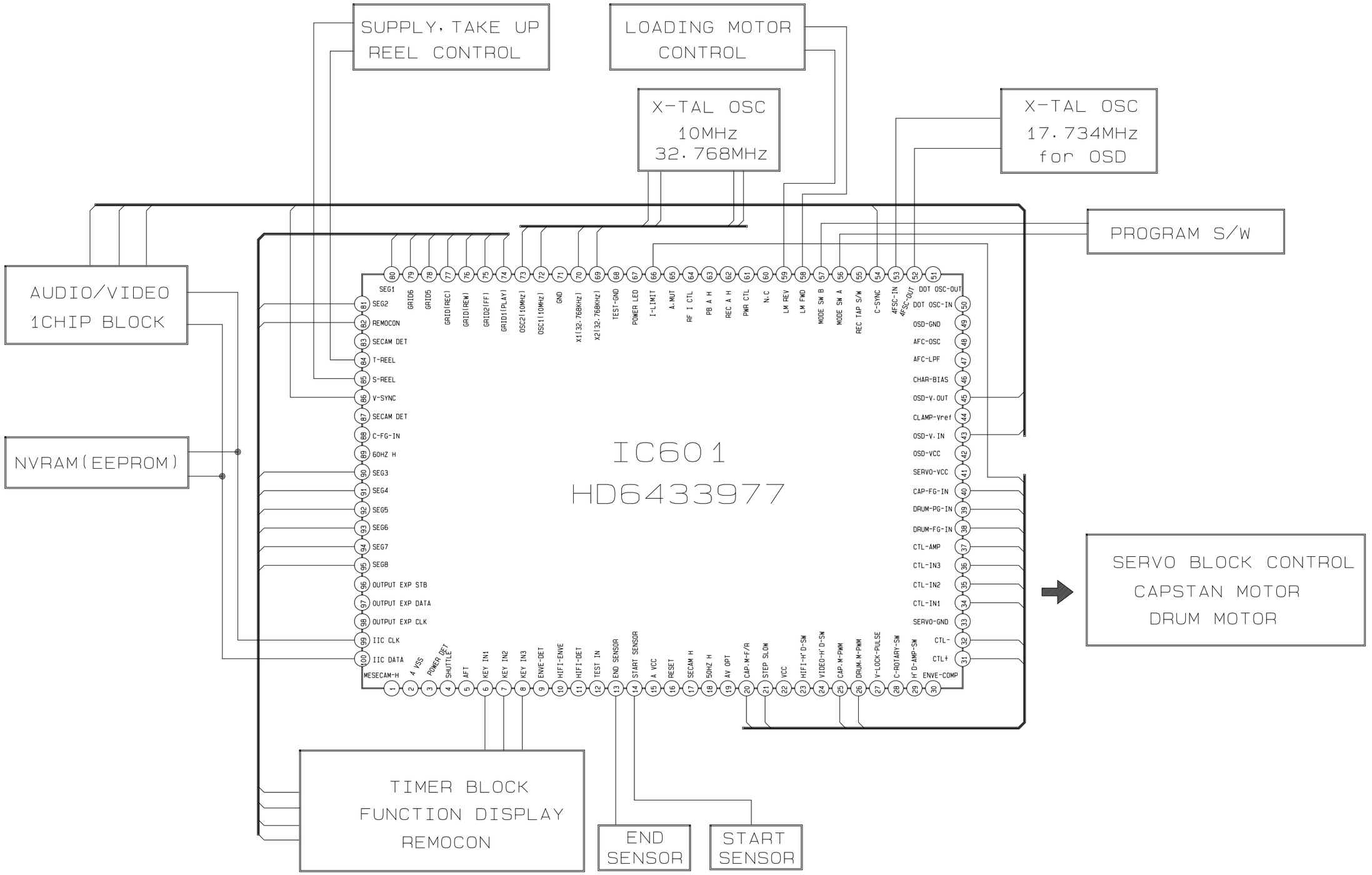
8-2	System Control	8-3
8-3	Video	8-4

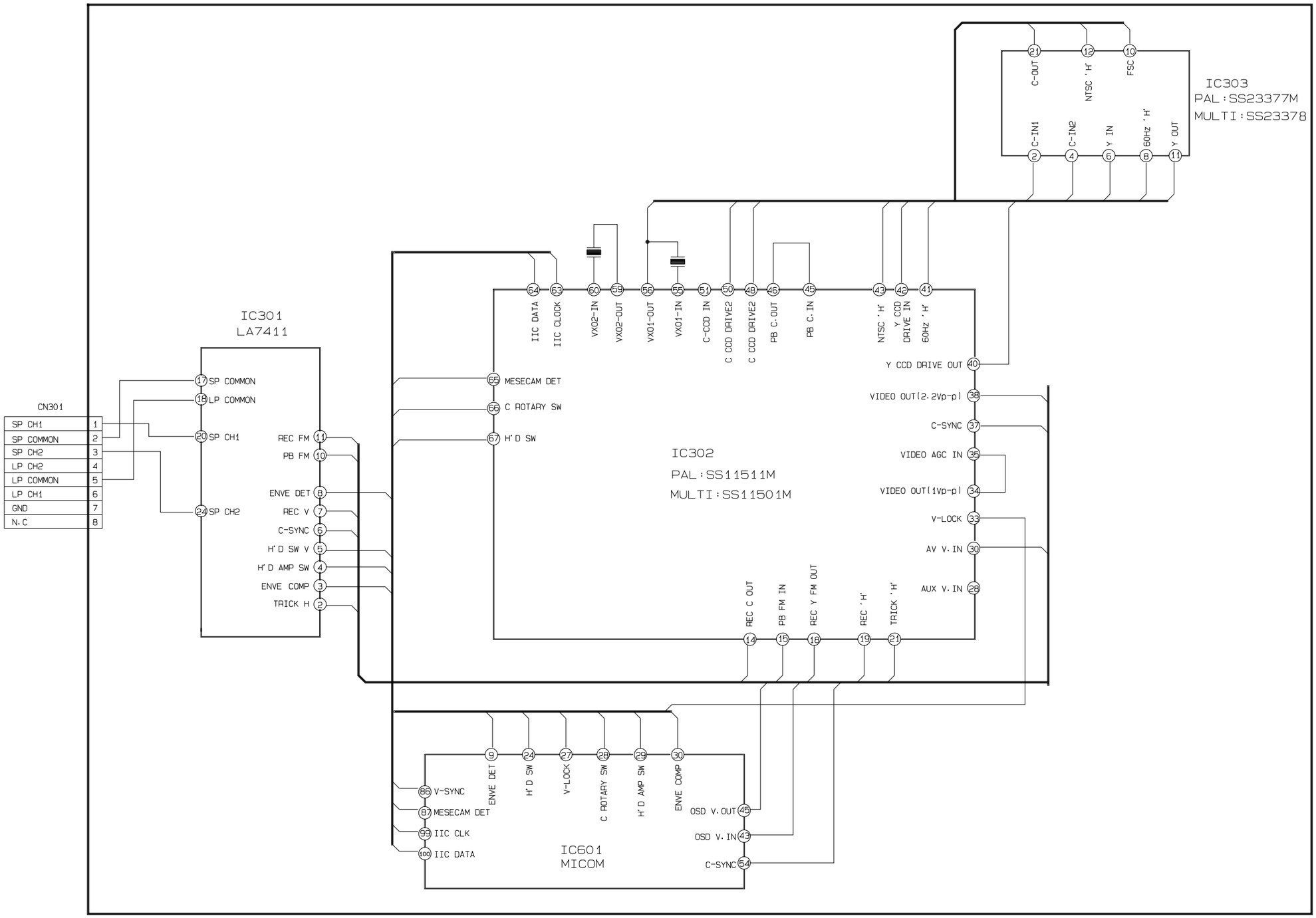
8-1 Overall Block Diagram



8-2 System Control



8-3 Video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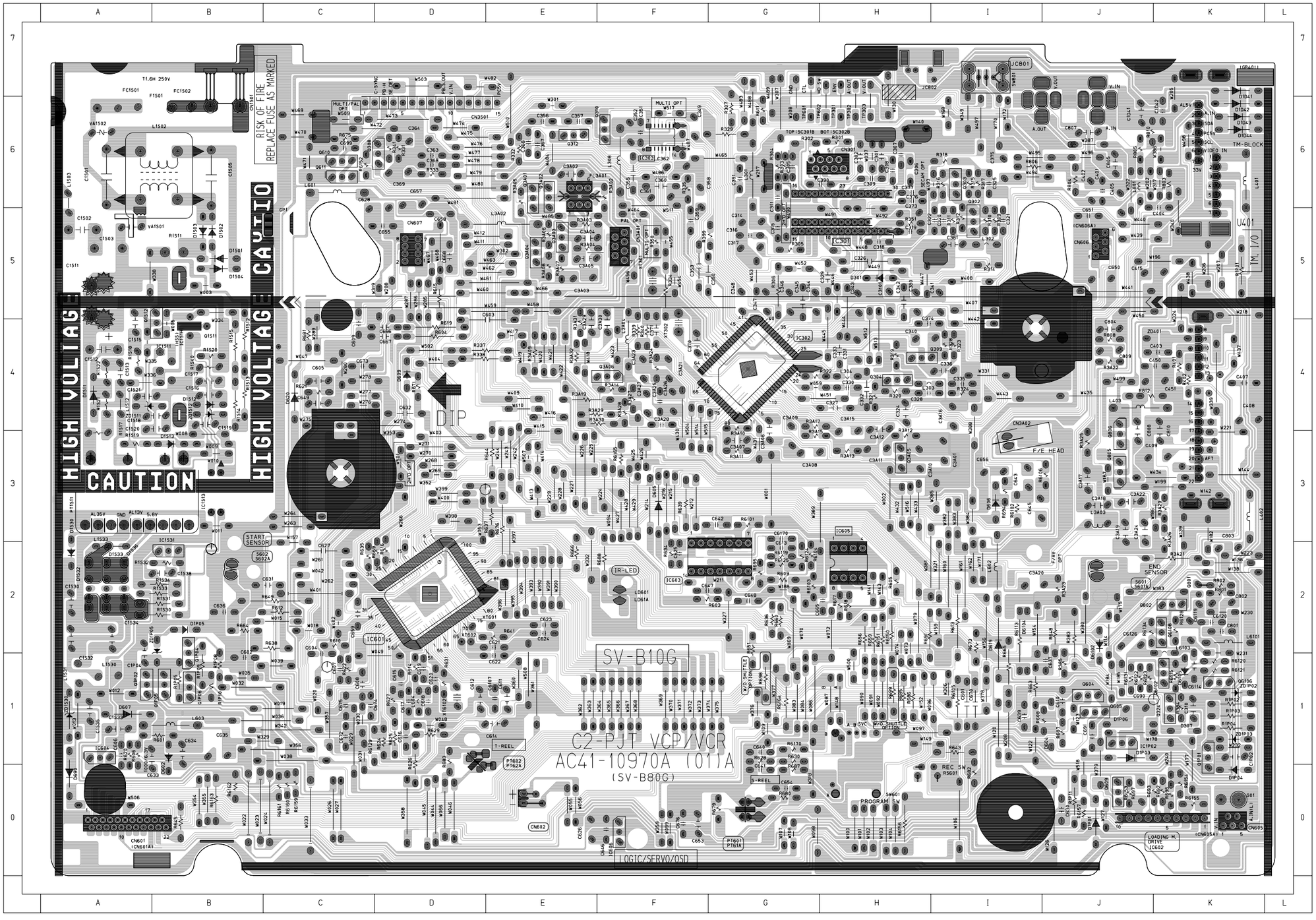
PAL : SS23377M
MULTI : SS23378
C-OUT
NTSC 'H'
FSC
C-IN1
C-IN2
Y IN
60Hz 'H'
Y OUT
IC301
LA7411
IIC DATA
IIC CLOCK
VXO2-IN
VXO2-OUT
VXO1-OUT
VXO1-IN
C-CCD IN
C CCD DRIVE2
C CCD DRIVE2
PB C.OUT
PB C.IN
NTSC 'H'
Y CCD DRIVE IN
60Hz 'H'
Y CCD DRIVE OUT
VIDEO OUT(2.2Vp-p)
C-SYNC
VIDEO AGC IN
VIDEO OUT(1Vp-p)
V-LOCK
AV V.IN
AUX V.IN
CN301
SP CH1
SP COMMON
SP CH2
LP CH2
LP COMMON
LP CH1
GND
N.C
SP COMMON
LP COMMON
SP CH1
SP CH2
REC FM
PB FM
ENVE DET
REC V
C-SYNC
H'D SW V
H'D AMP SW
ENVE COMP
TRICK H
MESECAM DET
C ROTARY SW
H'D SW
IC302
PAL : SS11511M
MULTI : SS11501M
REC C OUT
PB FM IN
REC Y FM OUT
REC 'H'
TRICK 'H'
V-SYNC
MESECAM DET
IIC CLK
IIC DATA
ENVE DET
H'D SW
V-LOCK
C ROTARY SW
H'D AMP SW
ENVE COMP
OSD V.OUT
OSD V.IN
C-SYNC
IC601
MICOM

9. PCB Diagrams

		Page
9-1	Main	9-2
9-2	Function (SVR-18A/SVR-18B)	9-4
9-3	Function (SVR-18C)	9-4

9-1 Main


RISK OF FIRE
REPLACE FUSE AS MARKED
HIGH VOLTAGE CAUTIO
HIGH VOLTAGE
CAUTION
DIP
SV-B10G
C2-PJT VCP/VCR
AC41-10970A (011A
(SV-B80G)
LOGIC/SERVO/OSD
F/E HEAD
START SENSOR
END SENSOR
IR-LED
TM-BLOCK
PROGRAM SW
REC SW
LOADING M. DRIVE
T-REEL
S-REEL

*** RESISTOR ***

R1P01 (K5)
R1P02 (K1)
R1P03 (K1)
R1P04 (K1)
R1P05 (B1)
R1P08 (B1)
R1P09 (B1)
R1P10 (B1)
R1P11 (J0)
R1S12 (B5)
R1S13 (B4)
R1S14 (B4)
R1S15 (B4)
R1S17 (A3)
R1S18 (A4)
R1S19 (A3)
R1S20 (B4)
R1S21 (A4)
R1S22 (A4)
R1S30 (A2)
R1S31 (A2)
R1S32 (B2)
R1S33 (A2)
R1S34 (A2)
R1S40 (B4)
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R303 (G6)
R304 (G6)
R305 (G5)
R306 (G5)
R307 (G6)
R309 (I5)
R310 (I5)
R311 (I5)
R312 (I5)
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R338 (D4)
R339 (F4)
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R341 (D6)
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R351 (H5)
R383 (J1)
R384 (K1)
R385 (J1)
R399 (G5)
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R3A25 (J3)
R3A26 (K2)
R3A27 (F4)
R3A28 (F4)
R3A29 (F4)
R3A30 (E4)
R3A31 (E4)
R3A32 (E4)
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R402 (K4)
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R603 (F2)
R604 (D4)
R605 (H2)
R606 (A0)
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R609 (G2)
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R808 (J4)
R810 (J6)
R812 (J4)
XT301 (F5)
XT302 (F4)
XT602 (D2)

*** CONDENSER ***

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C805 (J6)
C807 (J6)
C808 (J3)
C809 (J4)
C810 (K3)
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VA1S02 (A6)
XT601 (D2)
XT6102 (D1)

*** DIODE ***

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D1D44 (K6)
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D1P04 (K0)
D1P05 (B2)
D1P06 (J1)
D1S01 (B5)
D1S02 (B5)
D1S03 (B5)
D1S04 (B5)
D1S11 (A4)
D1S12 (B4)
D1S13 (B3)
D1S30 (A2)
D1S32 (A2)
D1S33 (A2)
D1S36 (A2)
D301 (H5)
D307 (K1)
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D605 (F3)
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D607 (A1)
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D6105 (K1)
D619 (I2)
D620 (C4)
D690 (A0)
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ZD1P03 (K1)
ZD1P05 (B1)
ZD1S11 (A4)
ZD1S12 (B4)
ZD1S30 (A1)
ZD401 (K4)

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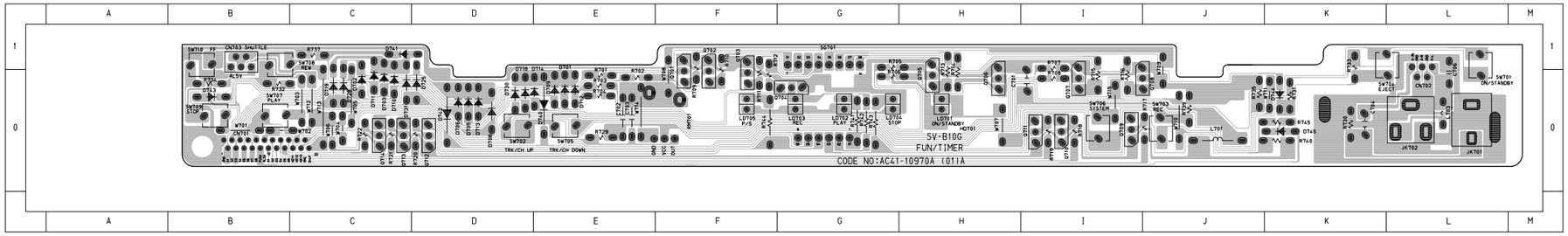
IC1S31 (B2)
IC604 (A1)
IC606 (F0)
Q1P01 (K1)
Q1P02 (A1)
Q1P04 (B2)
Q1P05 (B1)
Q1P06 (B1)
Q1S12 (B4)
Q302 (I5)
Q303 (I6)
Q304 (H4)
Q308 (D6)
Q309 (H4)
Q310 (F6)
Q312 (E6)
Q324 (K1)
Q3A01 (E6)
Q3A02 (E6)
Q3A03 (E5)
Q3A04 (E5)
Q3A05 (H3)
Q3A06 (F4)
Q604 (J1)
Q605 (J1)
Q609 (J0)
Q610 (C6)
Q6102 (K1)
Q6106 (K1)
Q6108 (K2)
Q611 (C6)
Q801 (K2)
Q802 (K2)
Q805 (J3)
Q806 (J3)

*** IC&WAFER ***

CN1S01 (B6)
CN3A01 (F5)
CN3S01 (C6)
IC301 (H6)
IC603 (F2)
IC605 (H2)
S602 (B2)
SVC (H1)

9-2 Function (SVR-18A/SVR-18B)



*** RESISTOR ***

R701 (E0)
R702 (E0)
R703 (E0)
R704 (E0)
R705 (G1)
R706 (G0)
R707 (I1)
R708 (I0)
R709 (F0)
R710 (F0)
R711 (F0)
R712 (F0)
R713 (H0)
R714 (H0)
R715 (I0)
R716 (I0)
R717 (J0)
R718 (I0)
R719 (I0)
R720 (D0)
R721 (C0)
R722 (C0)
R729 (E0)
R730 (K0)
R731 (K0)
R732 (B0)
R733 (K0)
R734 (B0)
R735 (J0)
R737 (C1)
R739 (J0)
R740 (J0)
R741 (G0)
R742 (G0)
R743 (G0)
R744 (F0)
R745 (J0)

*** CONDENSER ***

C701 (I0)
C702 (E0)
C703 (E0)
C704 (K0)
C706 (L0)

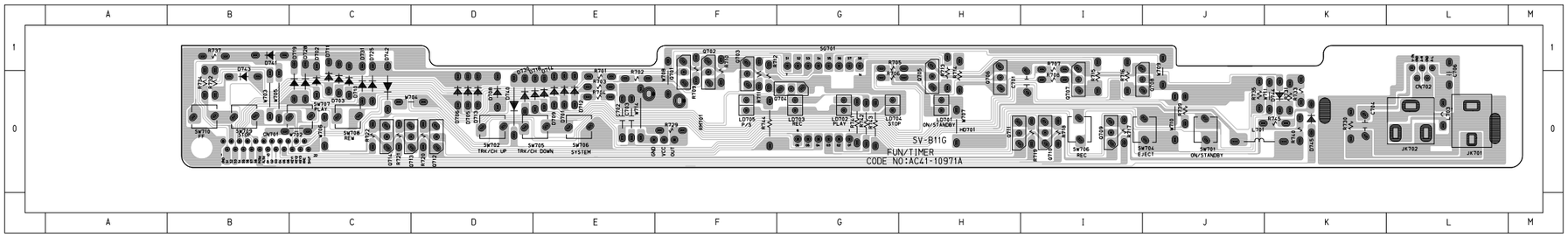
*** DIODE ***

D701 (E0)
D702 (C1)
D703 (C1)
D705 (D0)
D706 (D0)
D708 (D0)
D709 (E0)
D710 (C1)
D711 (C1)
D712 (E0)
D713 (D0)
D714 (E0)
D718 (D0)
D719 (C1)
D725 (D1)
D728 (C1)
D730 (D0)
D731 (C1)
D740 (E0)
D741 (C1)
D742 (D0)
D743 (B0)
D744 (K0)
D745 (K0)

*** IC&WAFER ***

JK701 (L0)
JK702 (L0)

9-3 Function (SVR-18C)



*** RESISTOR ***

R701 (E0)
R702 (E0)
R703 (E0)
R704 (E0)
R705 (G1)
R706 (G0)
R707 (I1)
R708 (I0)
R709 (F0)
R710 (F0)
R711 (F0)
R712 (F0)
R713 (H0)
R714 (H0)
R715 (I0)
R716 (I0)
R717 (I0)
R718 (I0)
R719 (I0)
R720 (D0)
R721 (C0)
R722 (C0)
R729 (F0)
R730 (K0)
R731 (K0)
R732 (B0)
R733 (K0)
R734 (B0)
R735 (J0)
R737 (B1)
R739 (J0)
R740 (K0)
R741 (G0)
R742 (G0)
R743 (G0)
R744 (F0)
R745 (J0)

*** CONDENSER ***

C701 (I0)
C702 (E0)
C703 (E0)
C704 (K0)
C706 (L0)

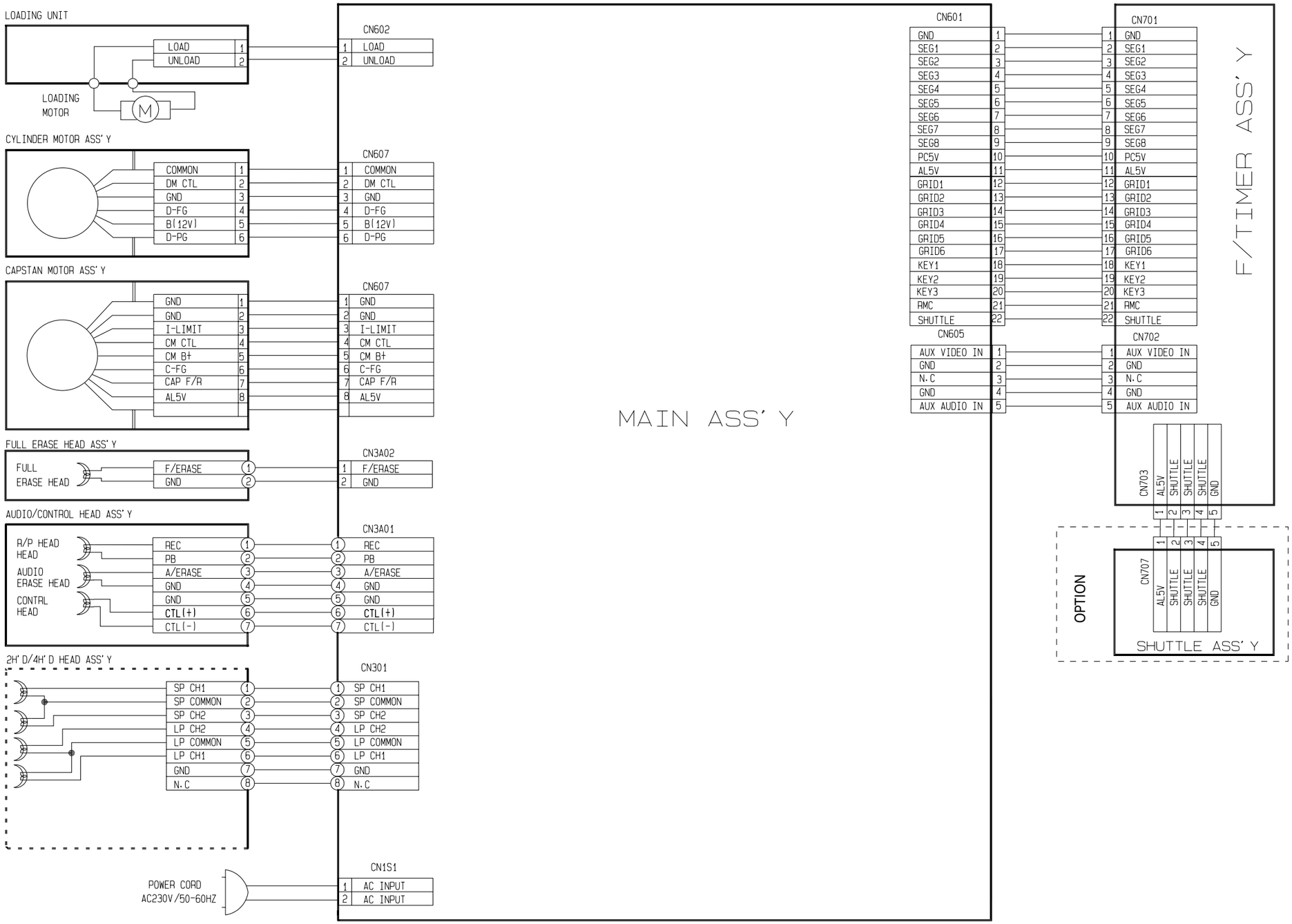
*** DIODE ***

D701 (E0)
D702 (C1)
D703 (C1)
D705 (D0)
D706 (D0)
D708 (D0)
D709 (E0)
D710 (C1)
D711 (C1)
D712 (E0)
D713 (D0)
D714 (E0)
D718 (E0)
D719 (C1)
D725 (C1)
D728 (C1)
D730 (D0)
D731 (C1)
D740 (D0)
D741 (B1)
D742 (C0)
D743 (B0)
D744 (K0)
D745 (K0)

*** IC&WAFER ***

JK701 (L0)
JK702 (L0)

10. Wiring Diagram



11. Schematic Diagrams

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11-2 System Control/Servo - 11-4

11-3 Audio/Video - 11-5

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11-5 Function - 11-7

11-6 Remote-Control - 11-8

Note

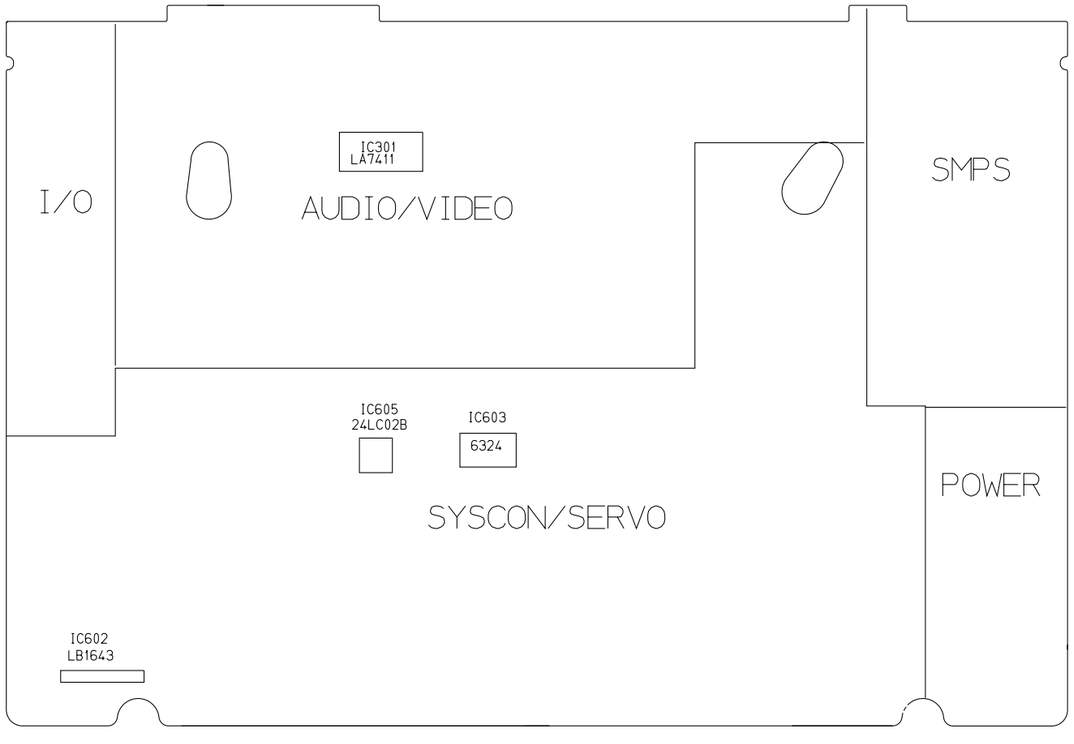
For schematic Diagram
- Resistors are in ohms, 1/8W unless otherwise noted.

Special note :
Most semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the “electrostatically sensitive (ES) devices” section of this service manual.

Note :
Do not use the part number shown on this drawing for ordering. The correct part number is shown in the parts list (may be slightly different or amended since this drawing was prepared).

Important safety notices :
Components identified with the mark ⚠ have the special characteristics for safety. When replacing any of these components. Use only the same type.

◆ Block Identification of Main PCB



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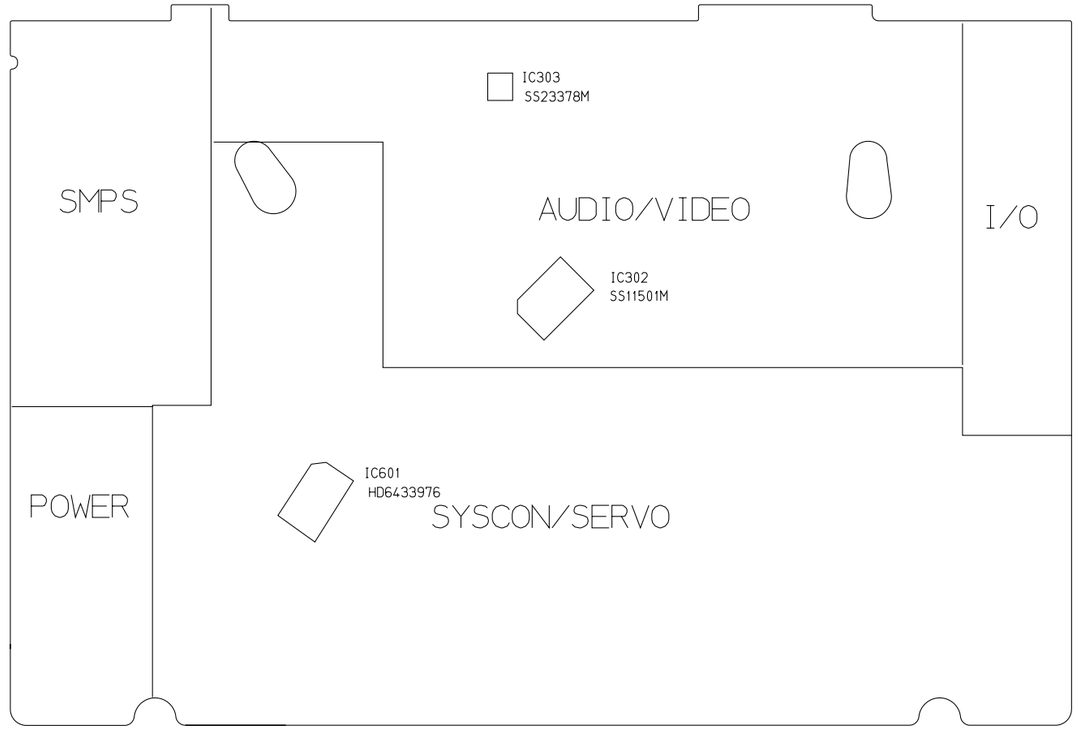
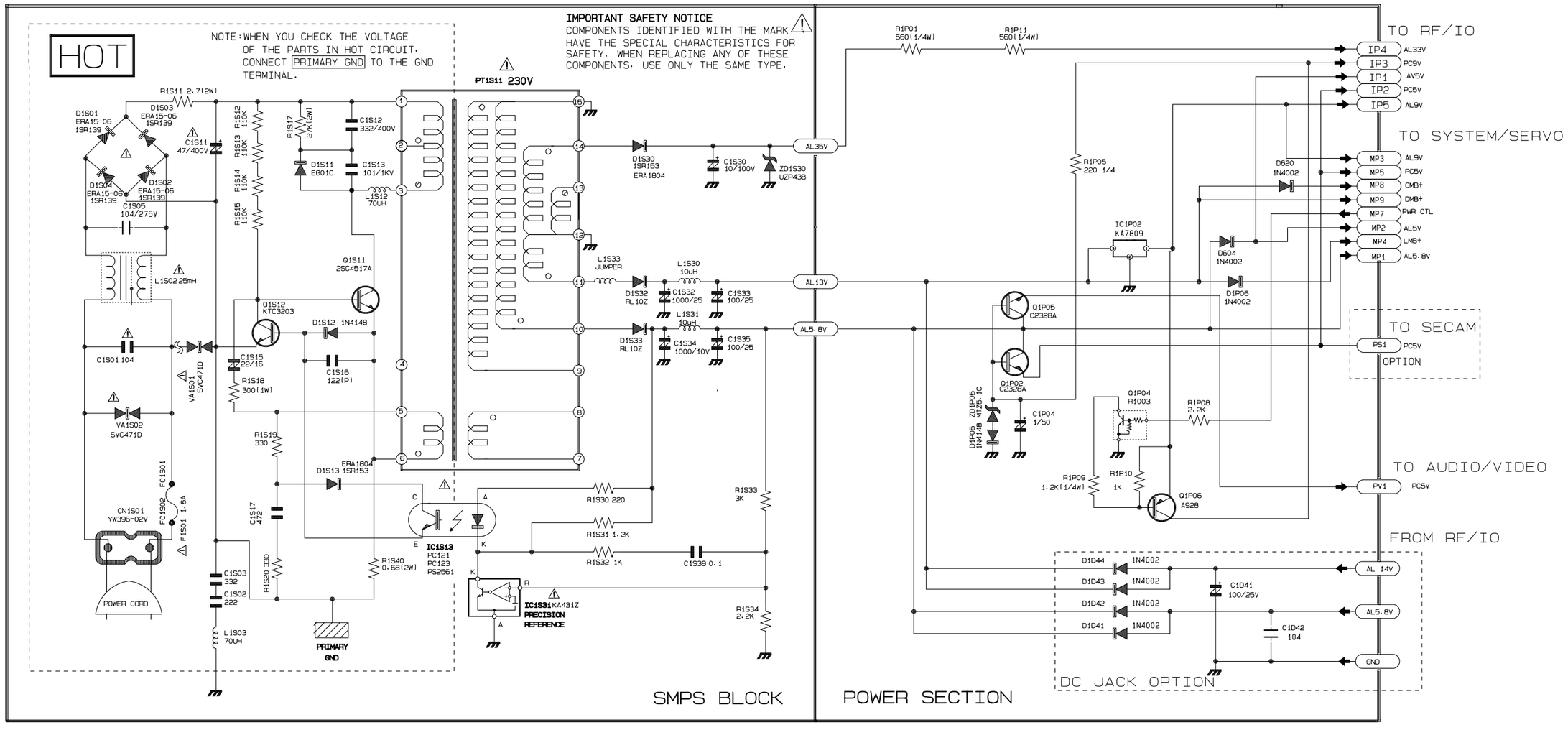
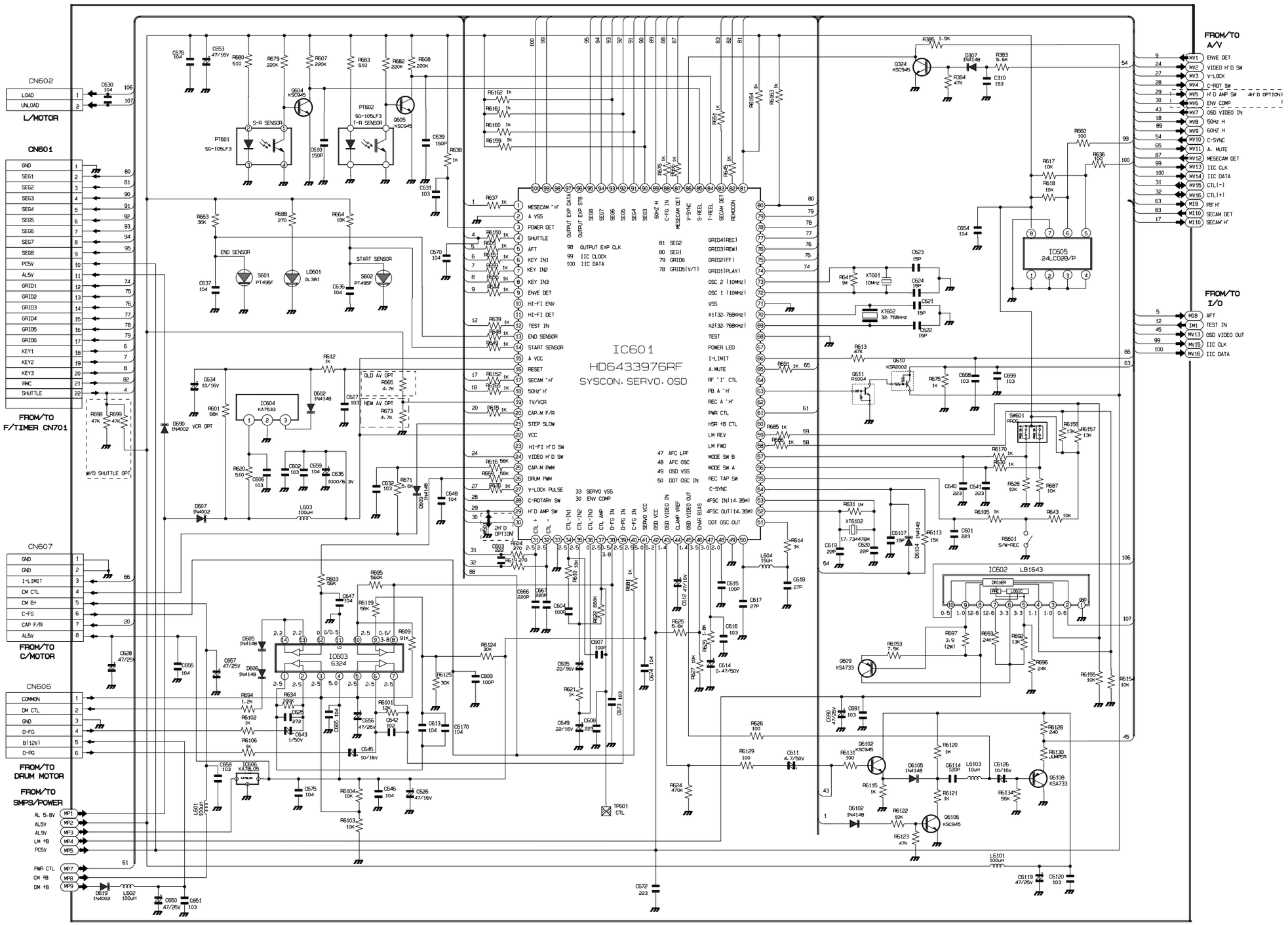


(Conductor Side)

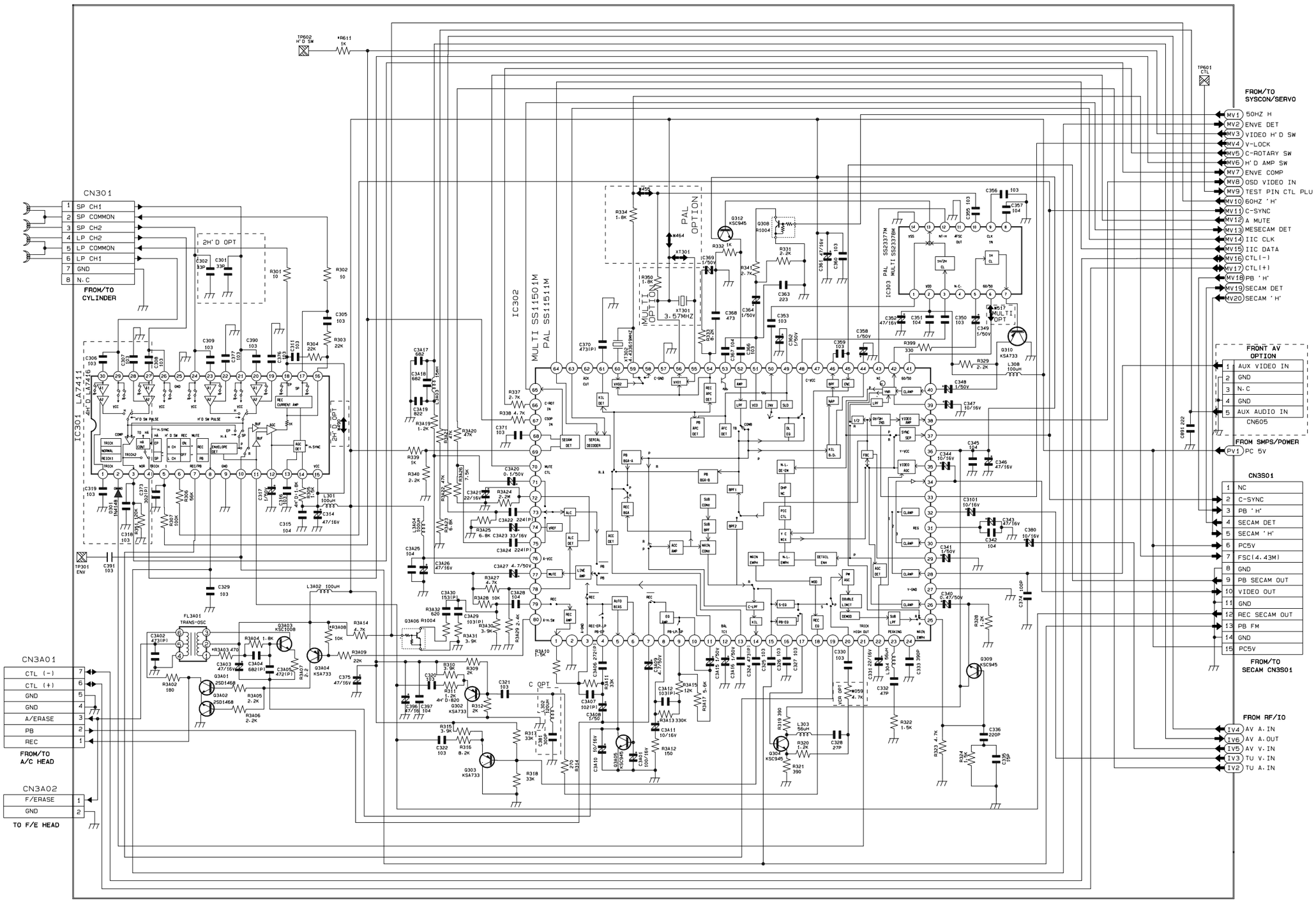
11-1 S.M.P.S/POWER



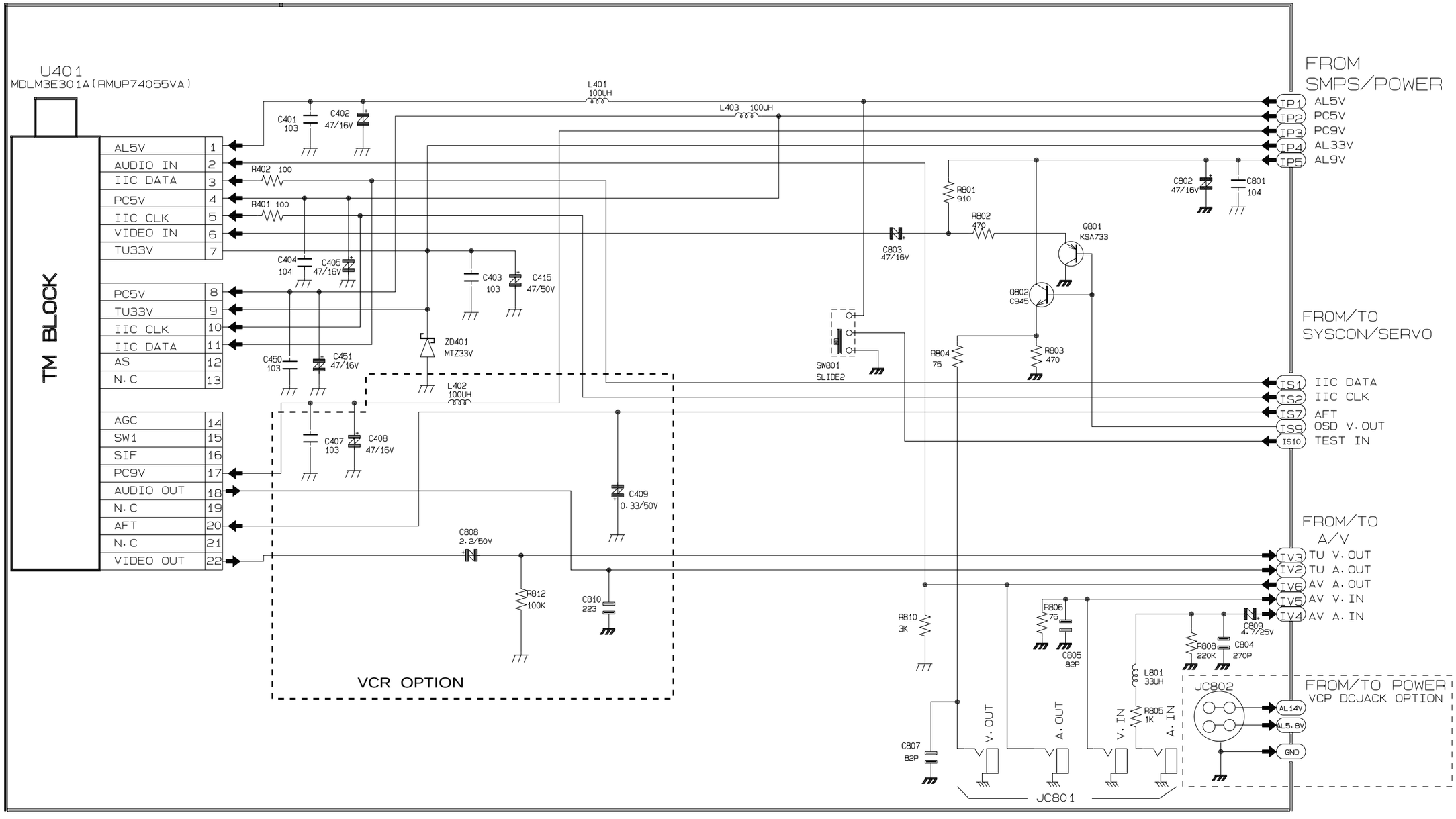
11-2 System Control/Servo



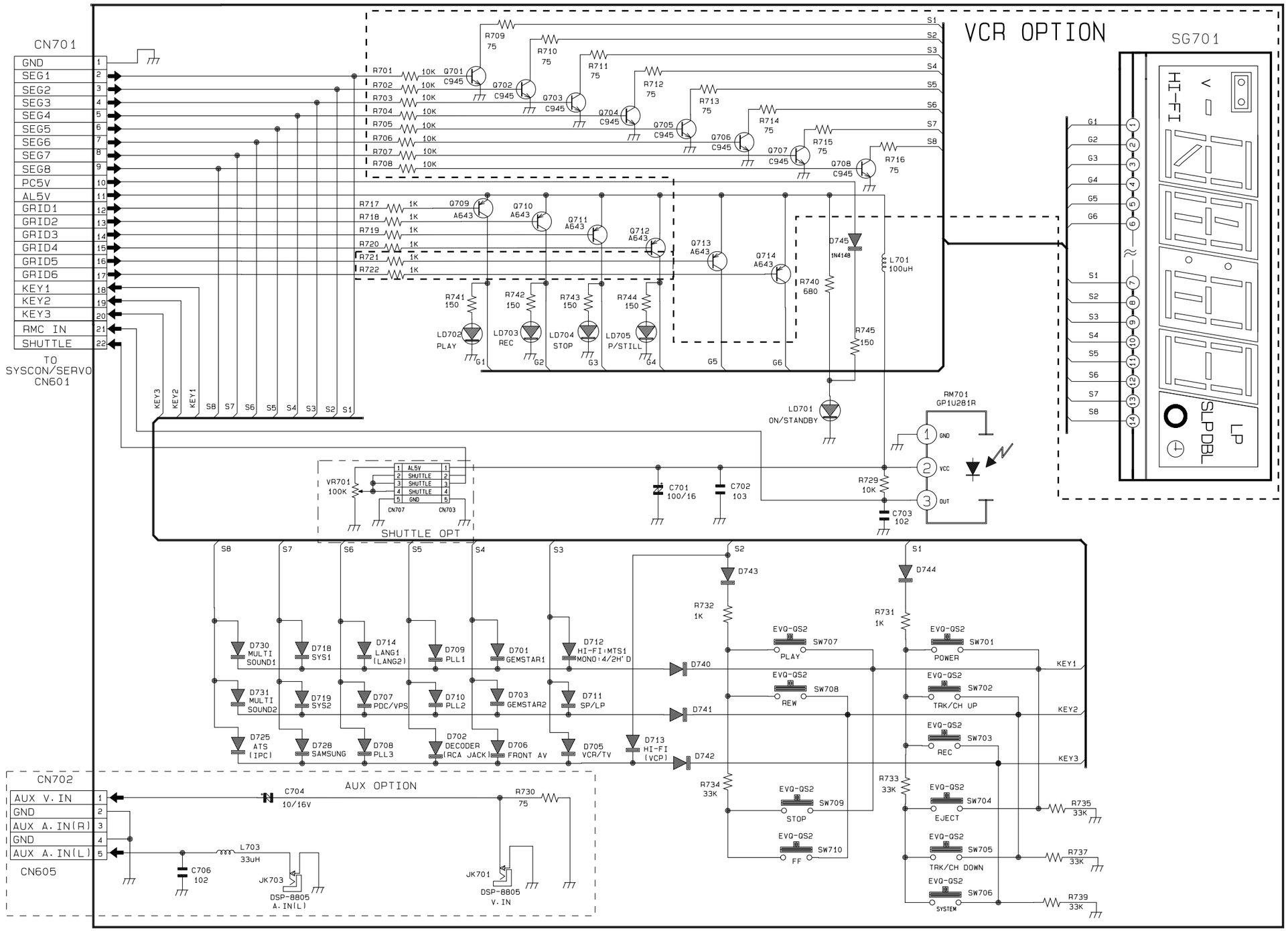
11-3 Audio/Video



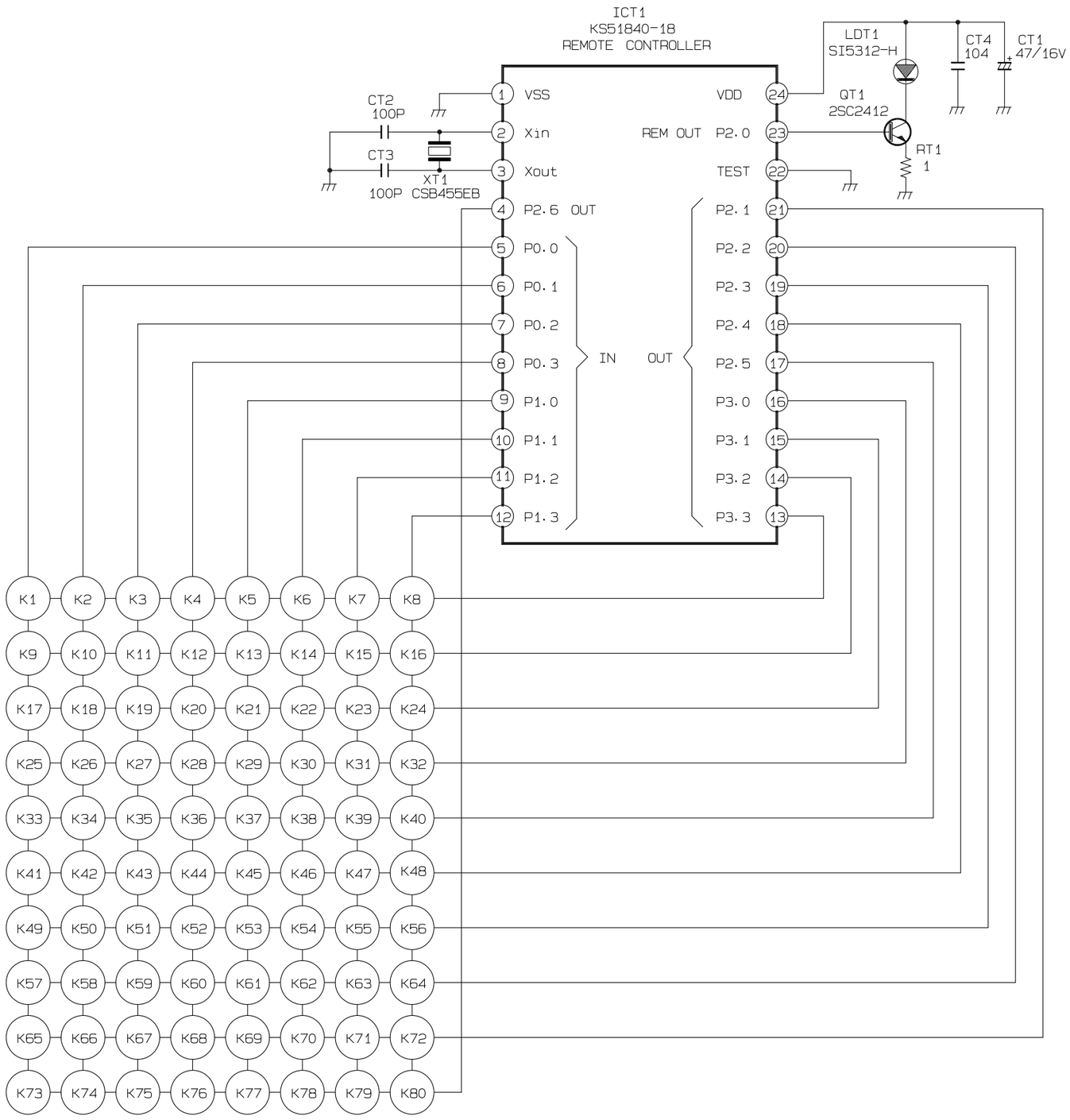
11-4 I/O


U401
MDLM3E301A(RMUP74055VA)
TM BLOCK
AL5V 1
AUDIO IN 2
IIC DATA 3
PC5V 4
IIC CLK 5
VIDEO IN 6
TU33V 7
PC5V 8
TU33V 9
IIC CLK 10
IIC DATA 11
AS 12
N.C 13
AGC 14
SW1 15
SIF 16
PC9V 17
AUDIO OUT 18
N.C 19
AFT 20
N.C 21
VIDEO OUT 22
L401 100UH
L403 100UH
L402 100UH
C401 103
C402 47/16V
R402 100
R401 100
C404 104
C405 47/16V
C403 103
C415 47/50V
ZD401 MTZ33V
C450 103
C451 47/16V
C407 103
C408 47/16V
C409 0.33/50V
C808 2.2/50V
R812 100K
C810 223
VCR OPTION
C803 47/16V
SW801 SLIDE2
R801 910
R802 470
Q801 KSA733
Q802 C945
R804 75
R803 470
C802 47/16V
C801 104
R810 3K
R806 75
C805 82P
C807 82P
V. OUT
A. OUT
V. IN
A. IN
L801 33UH
R805 1K
R808 220K
C804 270P
C809 4.7/25V
JC802
JC801
FROM SMPS/POWER
IP1 AL5V
IP2 PC5V
IP3 PC9V
IP4 AL33V
IP5 AL9V
FROM/TO SYSCON/SERVO
IS1 IIC DATA
IS2 IIC CLK
IS7 AFT
IS9 OSD V.OUT
IS10 TEST IN
FROM/TO A/V
IV3 TU V.OUT
IV2 TU A.OUT
IV6 AV A.OUT
IV5 AV V.IN
IV4 AV A.IN
FROM/TO POWER
VCP DCJACK OPTION
AL14V
AL5.8V
GND

11-5 Function



11-6 Remote-Control



* : SV-B10G

FUNCTION KEY			
K1	–	K41	*REW ◁
K2	TV/VCR	K42	*PLAY △
K3	*ON/STANDBY	K43	*F.F ▷
K4	REPEAT	K44	–
K5	–	K45	–
K6	ERASE	K46	–
K7	TEST(TEST ONLY)	K47	–
K8	INDEX	K48	–
K9	CH1(LESSON)	K49	–
K10	CH 2	K50	CLEAR/RESET
K11	CH 3	K51	* DISPLAY
K12	–	K52	* MENU
K13	*TRACKING UP	K53	* SYSTEM(TEST ONLY)
K14	*TRACKING DOWN	K54	–
K15		K55	–
K16	MARK	K56	–
K17	CH 4	K57	* EJECT
K18	CH 5	K58	–
K19	CH 6	K59	AUDIO(OUTPUT SEL.)
K20	–	K60	–
K21	–	K61	
K22	–	K62	–
K23	–	K63	PICTURE
K24	CLK/COUNTER(TEST ONLY)	K64	–
K25	CH 7	K65	–
K26	CH 8	K66	–
K27	CH 9	K67	–
K28	–	K68	–
K29	–	K69	
K30	–	K70	–
K31	–	K71	SHUTTLE-
K32	–	K72	SHUTTLE+
K33	REC(OTR)	K73	–
K34	* STOP ▽	K74	CH 0
K35	* P/STILL	K75	–
K36	* SLOW-DOWN	K76	* SLOW UP
K37	–	K77	–
K38		K78	–
K39		K79	SP/LP(TEST ONLY)
K40	–	K80	–

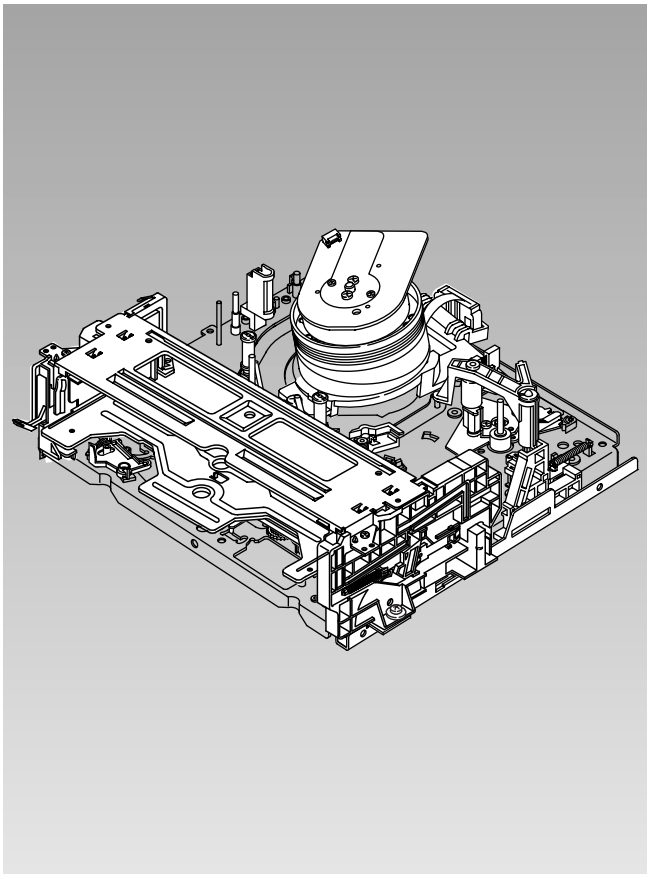
SAMSUNG

DX7-A/DX7-AC
DX8-A/DX8-AC

MECHANICAL Manual

◆ File with the SERVICE MANUAL.

VHS DECK



CONTENTS

1. Disassembly and Reassembly

2. Alignment and Adjustment

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AC68-20392A

1. Disassembly and Reassembly

1-1 Deck Parts Locations

1-1-1 Deck (Top View)

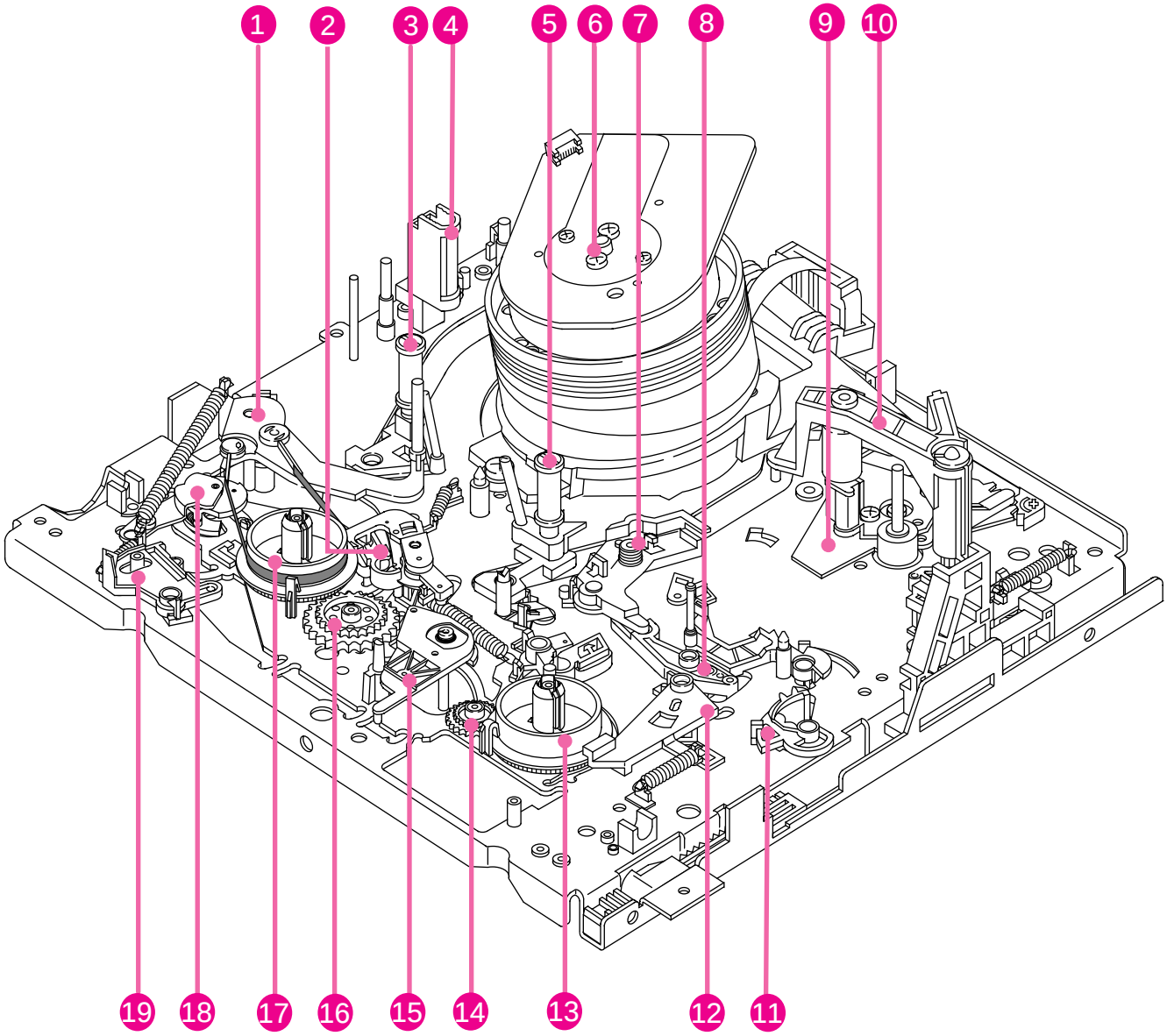


Fig. 1-1 Deck Top Parts Location (DX7-A/DX8-A DECK ONLY)

1. ARM TENSION FULL ASS'Y
2. BRAKE MAIN "L" ASS'Y
3. GUIDE ROLLER ASS'Y "T"
4. FULL ERASE HEAD
5. GUIDE ROLLER ASS'Y "S"
6. CYLINDER ASS'Y
7. LEVER PINCH COMP ASS'Y
8. LEVER PINCH CAM
9. FULL ACE HEAD AAS'Y
10. UNIT PINCH ROLLER ASS'Y
11. LEVER REVIEW
12. BRAKE SUB "R" ASS'Y
13. REEL DISK "R" ASS'Y
14. GEAR RELAY "T" ASS'Y
15. IDLER ASS'Y
16. GEAR RELAY "S" ASS'Y
17. REEL DISK "L" ASS'Y
18. LEVER JOG ASS'Y (DX8-A/AC ONLY)
19. LEVER REC SWITCH

1-1-2 Deck (Top View)

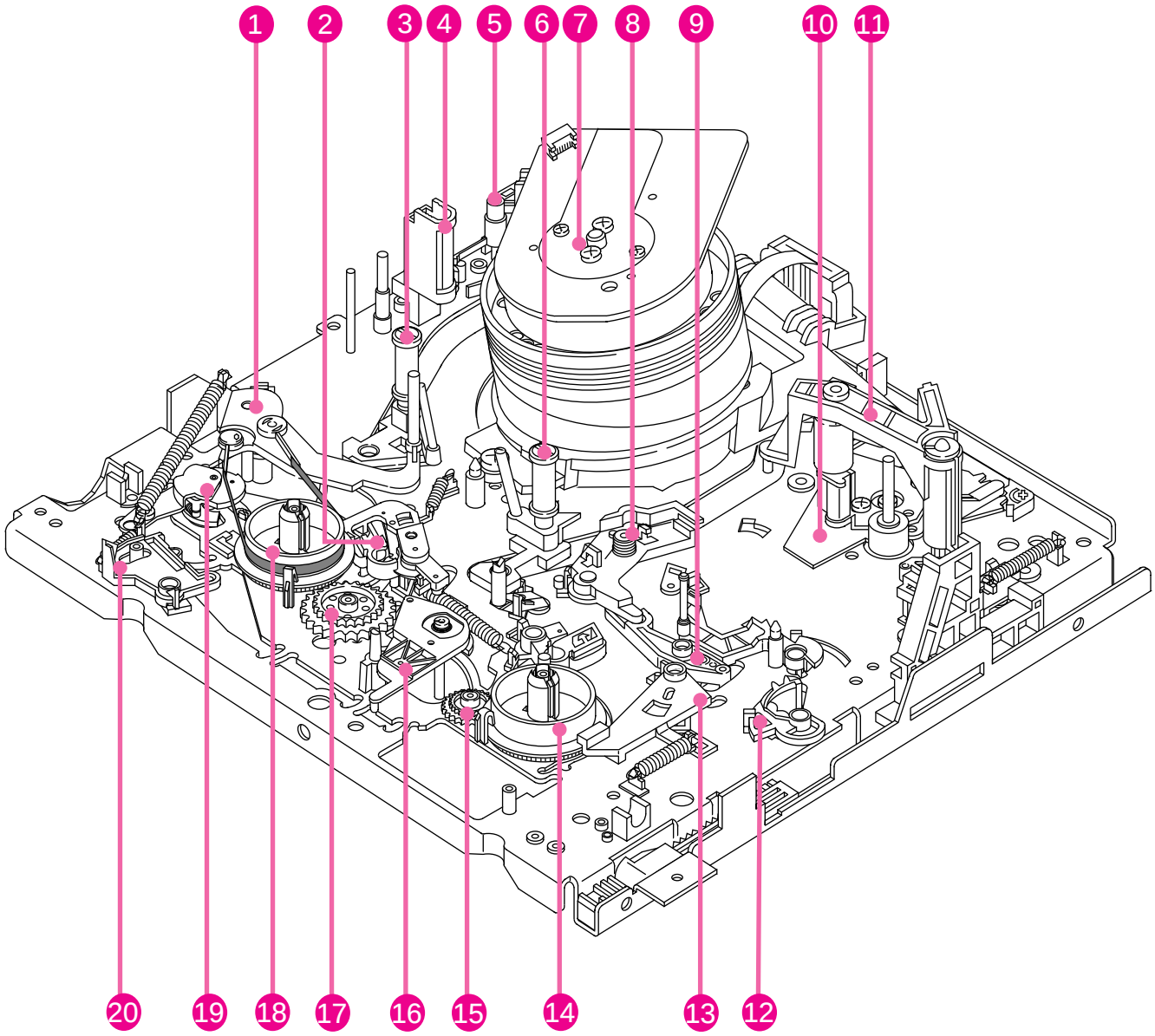


Fig. 1-2 Deck Top Parts Location (DX7-AC/DX8-AC DECK ONLY)

1. ARM TENSION FULL ASS'Y
2. BRAKE MAIN "L" ASS'Y
3. GUIDE ROLLER ASS'Y "T"
4. FULL ERASE HEAD
5. HEAD CLEANER ASS'Y (DX7-AC/DX8-AC ONLY)
6. GUIDE ROLLER ASS'Y "S"
7. CYLINDER ASS'Y
8. LEVER PINCH COMP ASS'Y
9. LEVER PINCH CAM
10. FULL ACE HEAD AAS'Y
11. UNIT PINCH ROLLER ASS'Y
12. LEVER REVIEW
13. BRAKE SUB "R" ASS'Y
14. REEL DISK "R" ASS'Y
15. GEAR RELAY "T" ASS'Y
16. IDLER ASS'Y
17. GEAR RELAY "S" ASS'Y
18. REEL DISK "L" ASS'Y
19. LEVER JOG ASS'Y (DX8-A/AC ONLY)
20. LEVER REC SWITCH

1-1-3 Deck (Bottom View)

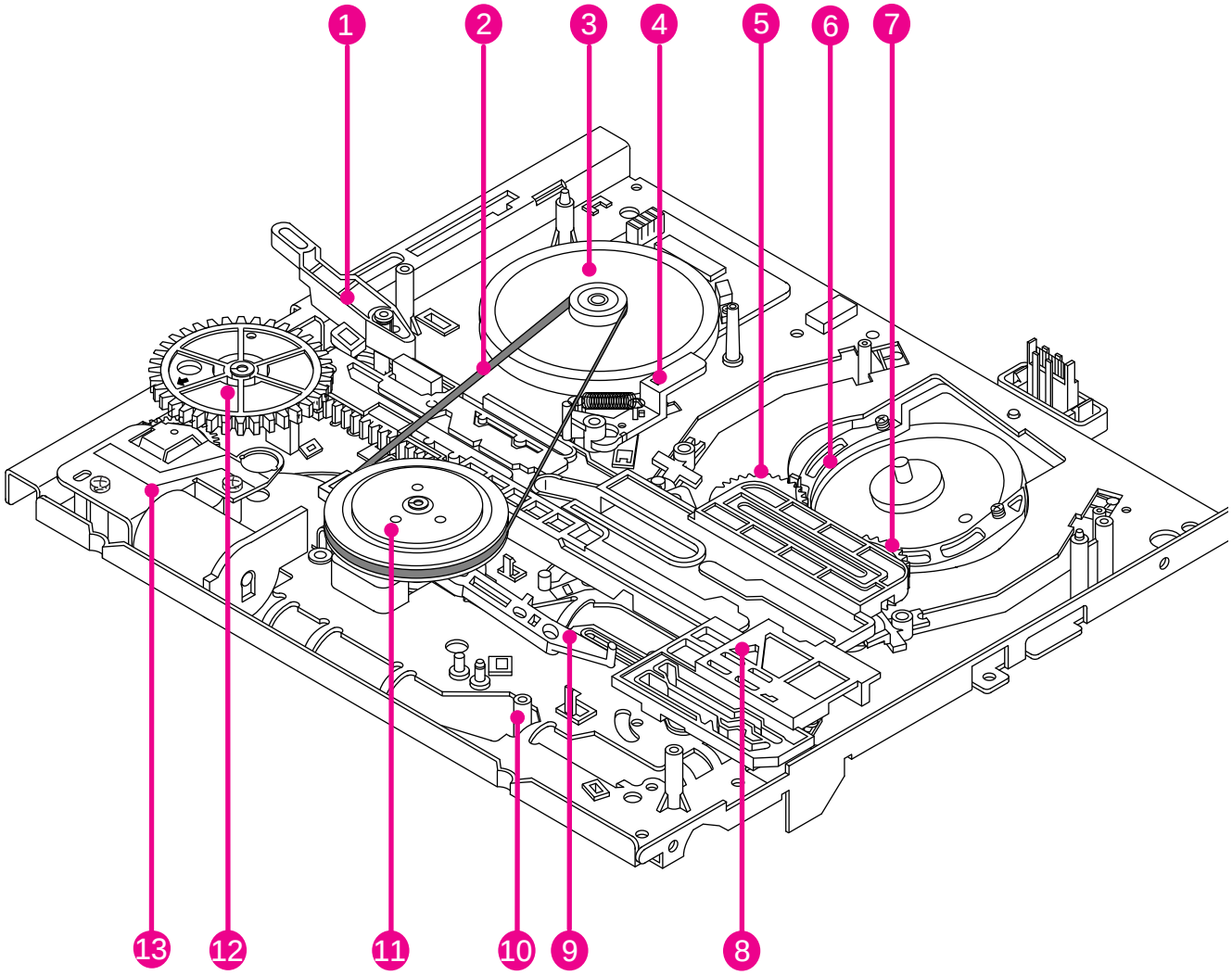


Fig. 1-3 Deck Bottom Parts Location

1. LEVER SLIDE PINCH
2. BELT CAPSTAN
3. MOTOR D.D CAPSTAN
4. BRAKE CAPSTAN ASS'Y
5. GEAR LOADING "R" ASS'Y
6. MOTOR CYLINDER
7. GEAR LOADING "L" ASS'Y
8. SLIDE MAIN
9. LEVER REC SWITCH
10. LEVER IDLER CHANGE
11. CLUTCH ASS'Y
12. UNIT LOADING
13. GEAR MASTER

1-1-4 Housing

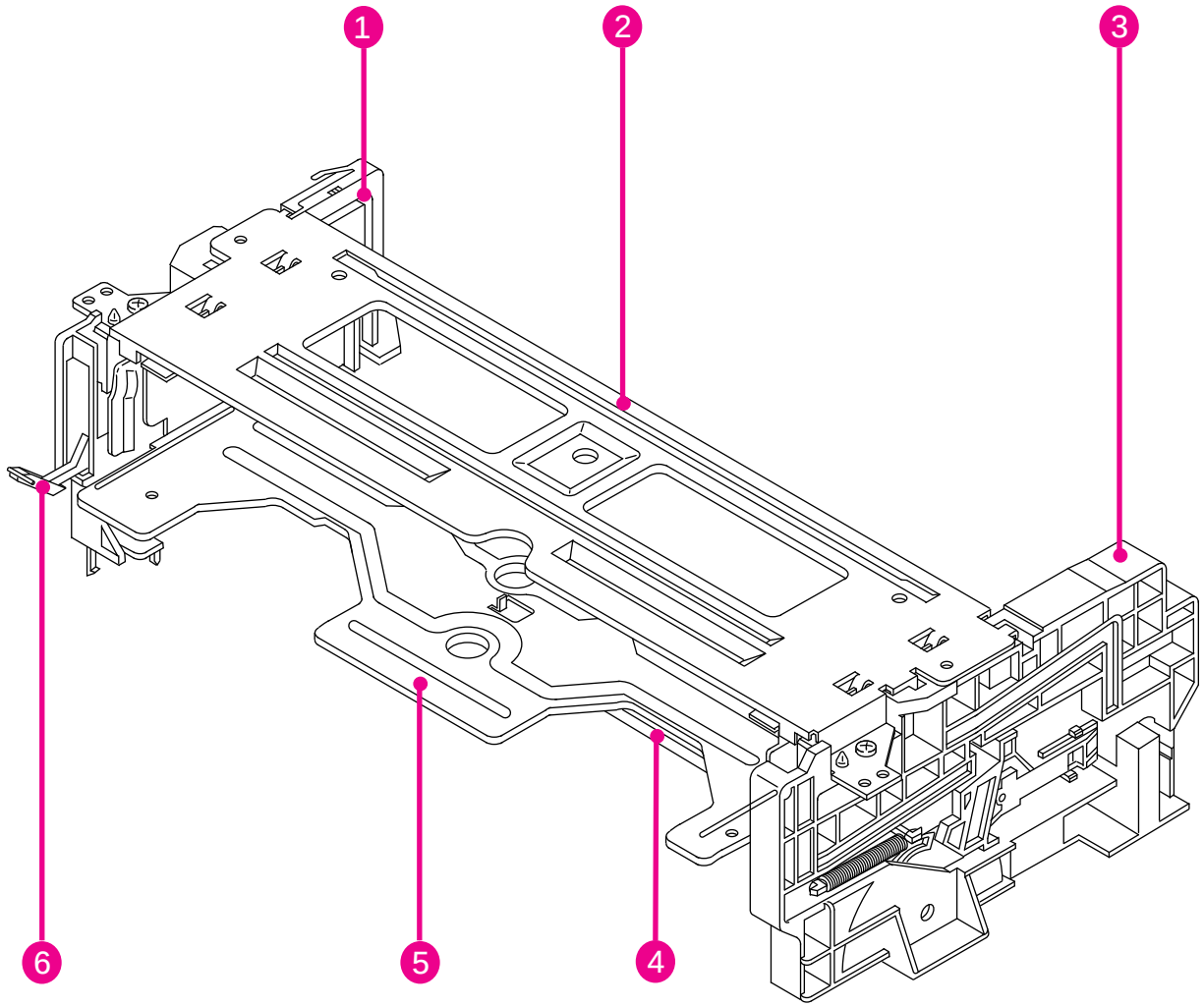


Fig. 1-4 Housing Parts Location

1. CHASSIS SIDE “L” ASS’Y
2. UPPER CHASSIS
3. CHASSIS SIDE “R” ASS’Y
4. SHAFT ARM ASS’Y
5. HOLDER CASSETTE ASS’Y
6. LEVER DOOR

1-2 Housing Assembly

1-2-1 Removal from Main Base

1. Remove 3 Screws ①.
2. Lift the Housing Ass'y in the direction of arrow "B", while pushing the tab ② in the direction of arrow "A". (Refer to detail drawing)

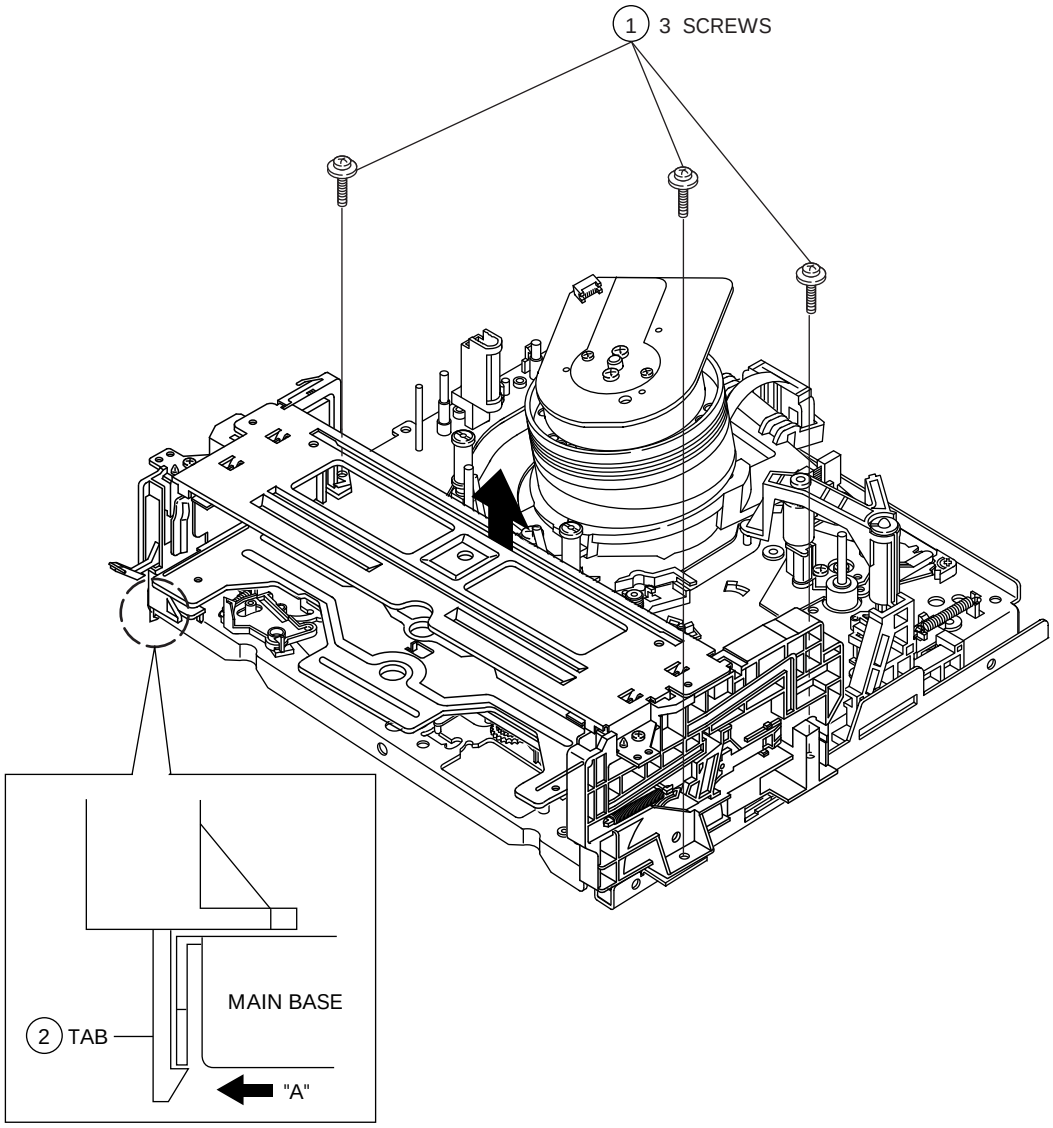


Fig. 1-5 Housing Ass'y Removal from Main Base

1-2-2 Diassembly

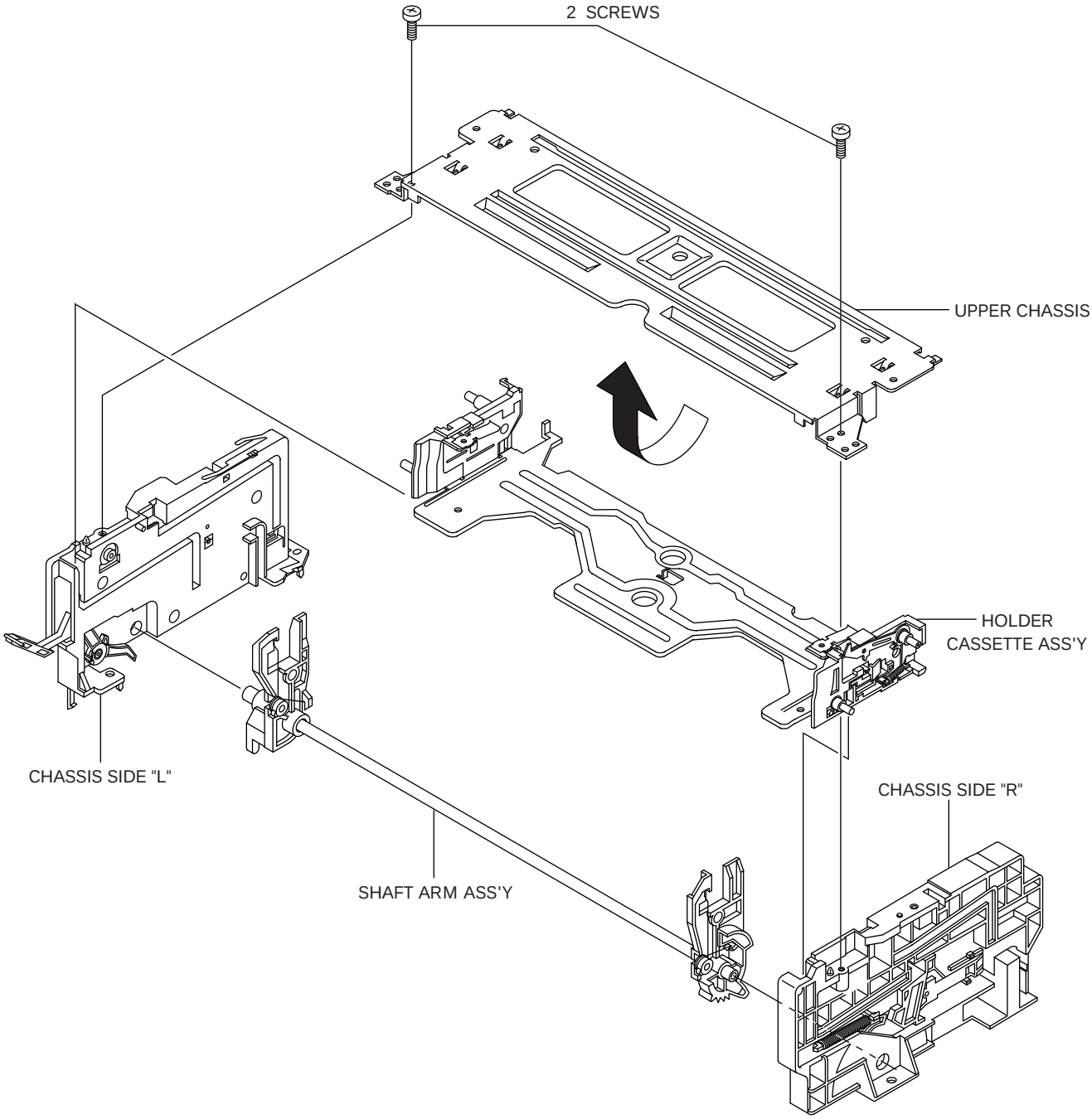


Fig. 1-6 Housing Ass'y Removal

1-2-3 Upper Chassis Removal

1. Remove 2 Screws ①.
2. Lift the Upper Chassis ② in the direction of arrow "A".

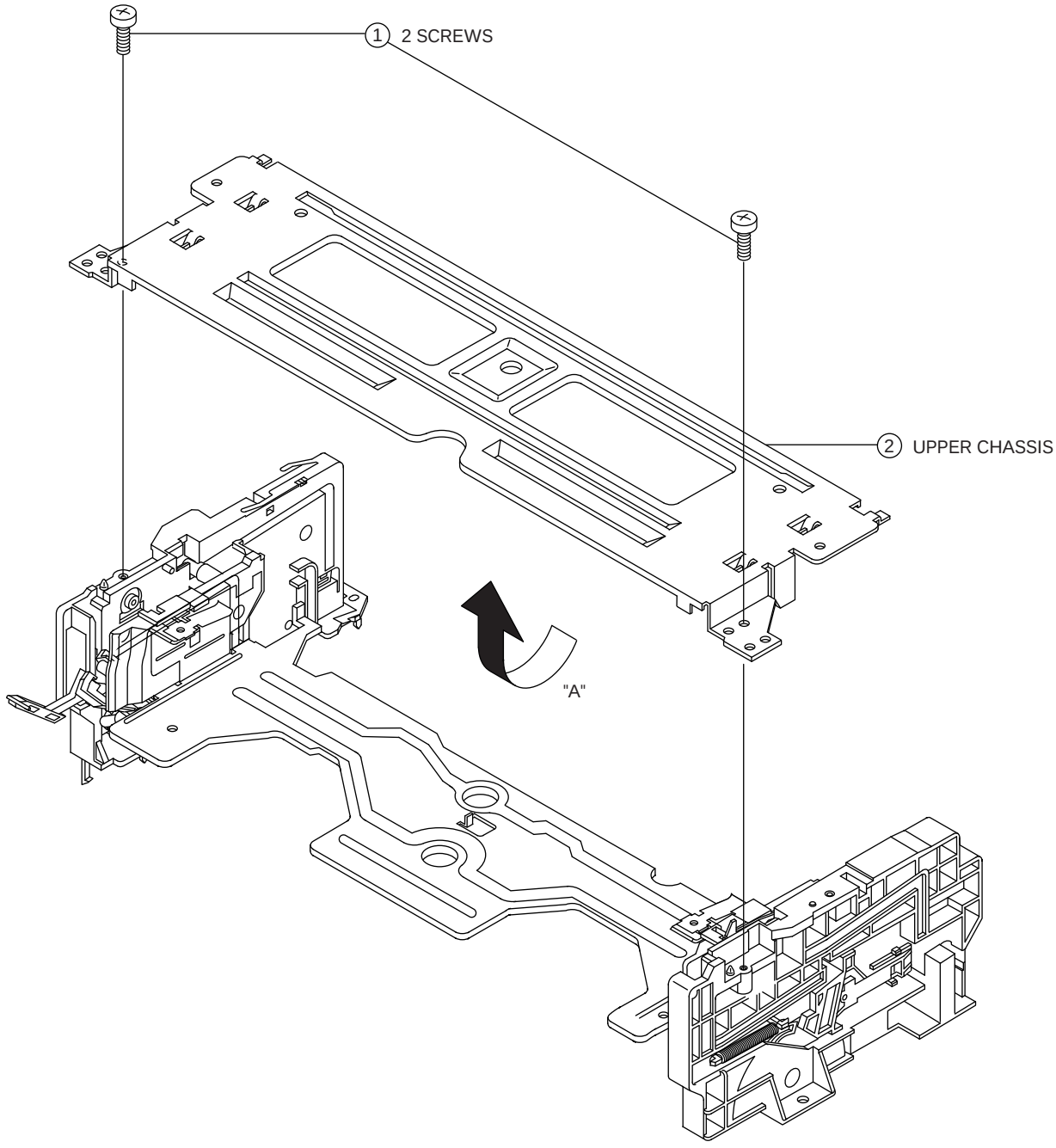


Fig. 1-7 Upper Chassis Removal

1-2-4 Holder Cassette Ass'y and Chassis Side L/R Removal

1. Lift the Cassette Holder ① in the direction of arrow "A" (Refer to Fig. A).
2. Remove the Side Chassis "L" ② and "R" ③ from Arm Shaft Ass'y ④ in the direction of arrow "B", "C" (Refer to Fig. B).

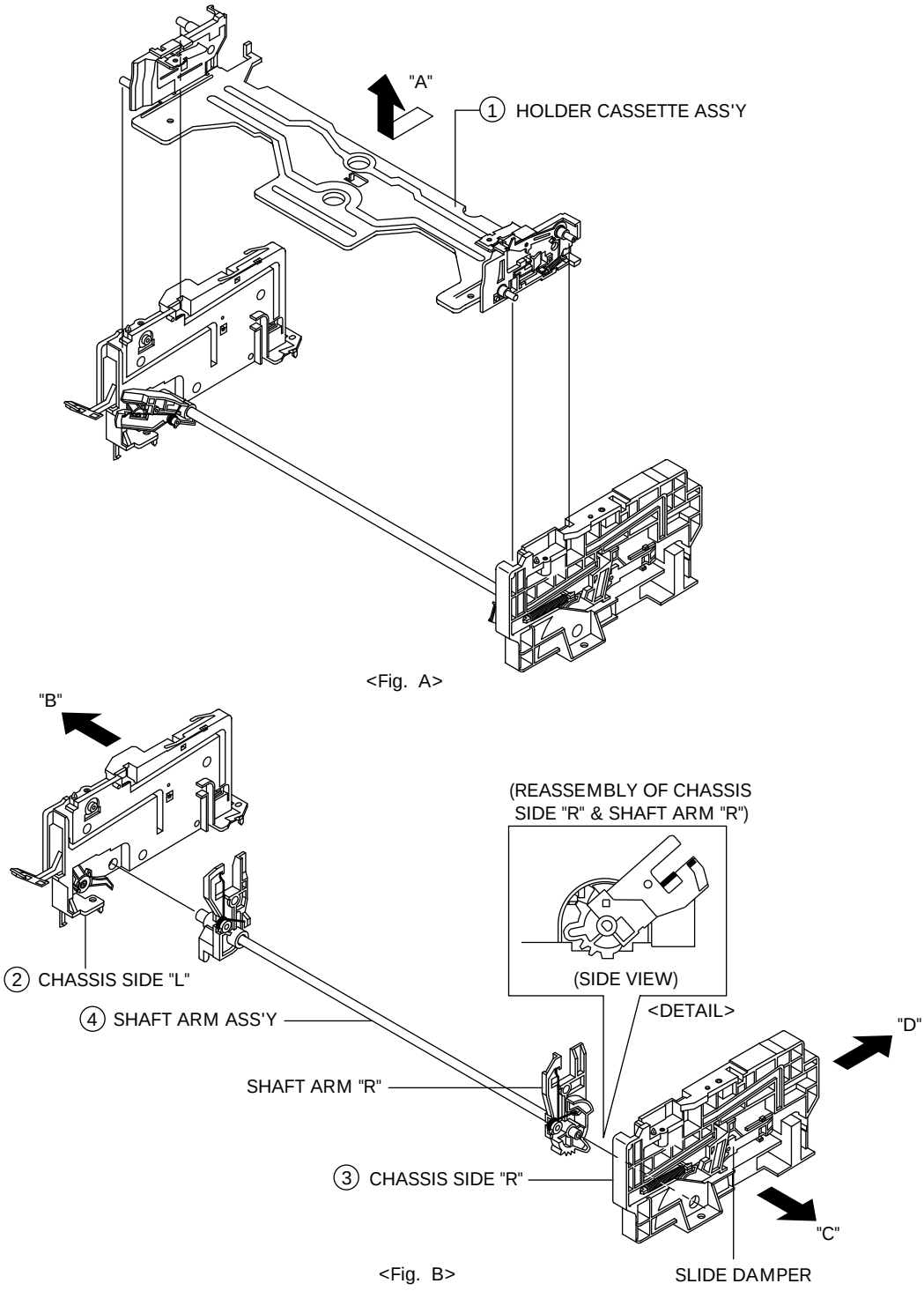


Fig. 1-8 Holder Cassette Ass'y and Chassis Side L/R

1-2-5 Chassis Side “R” Parts Locations

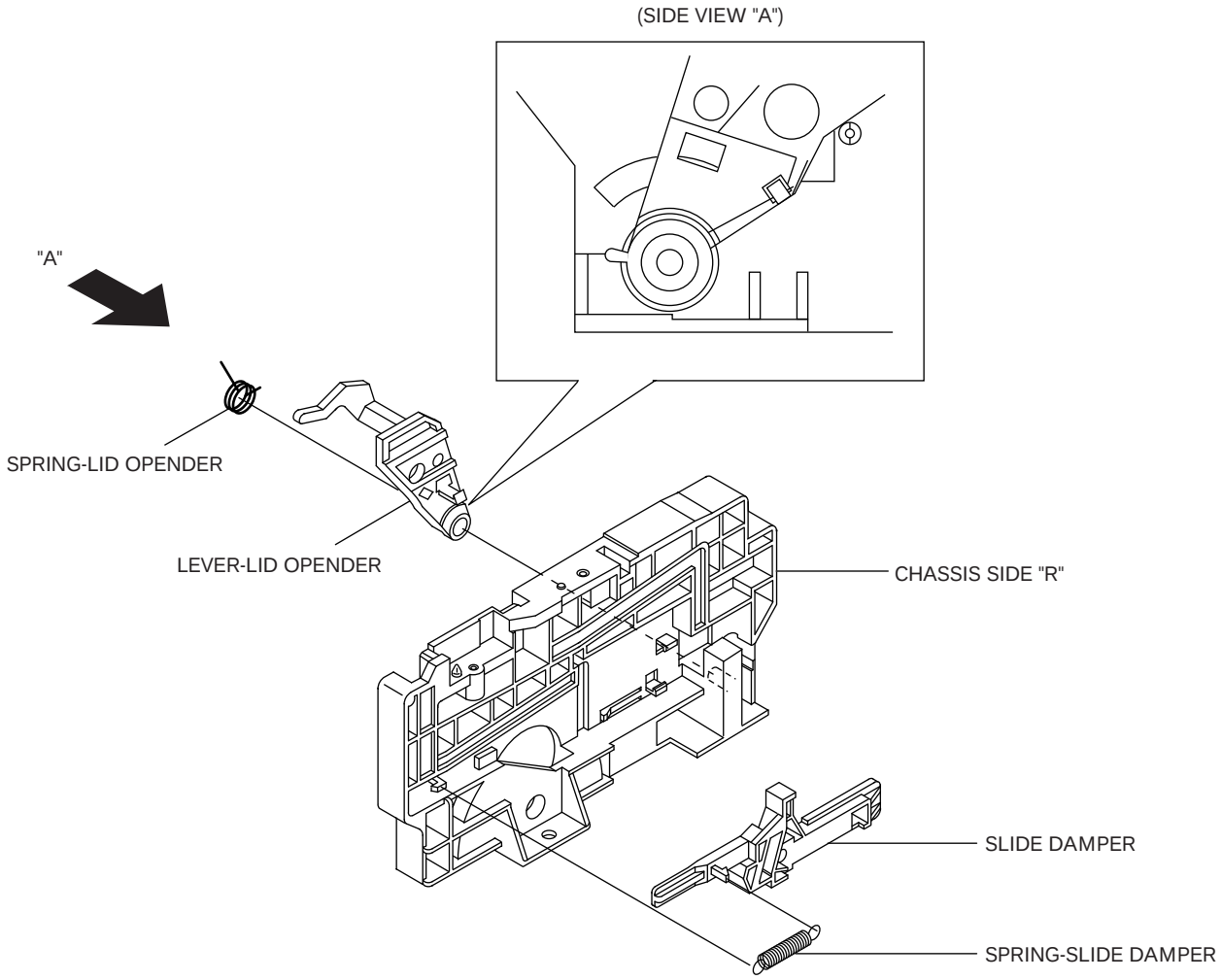


Fig. 1-9 Chassis Side “R” Parts Locations

Note : If you operate the deck when the Cassette Ass’y Holder is removed, the Arm Shaft “R” and the Damper Slide are not returned to their original positions. If this happens by accident, push the Damper Slide of Side Chassis “R” in the direction of arrow “D”, and return the Damper Slide in the reverse direction of arrow “D” when the Arm Shaft Ass’y is in eject mode.

1-2-6 Slide Damper Removal

1. Remove the Slide Damper Spring ①.
2. Push the Stopper ③ of the Side Chassis "R" ④. Move the Damper Slide ② in the direction of arrow.
3. Align the Damper Slide ② with the chassis side tab (as shown detail drawing).

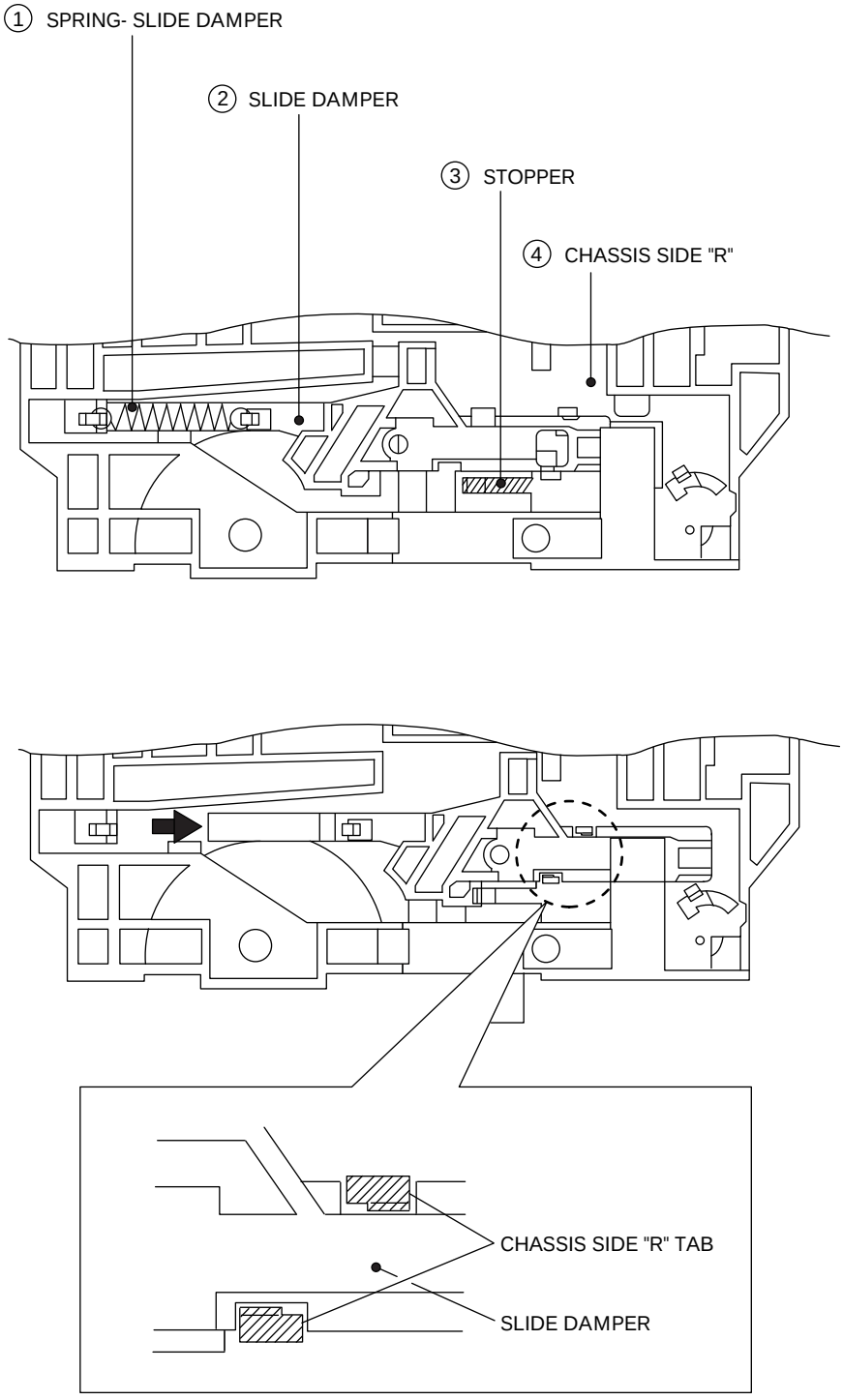


Fig. 1-10 Slide Damper Removal

1-3 Cylinder Ass'y

1-3-1 Exploded View of Cylinder Ass'y

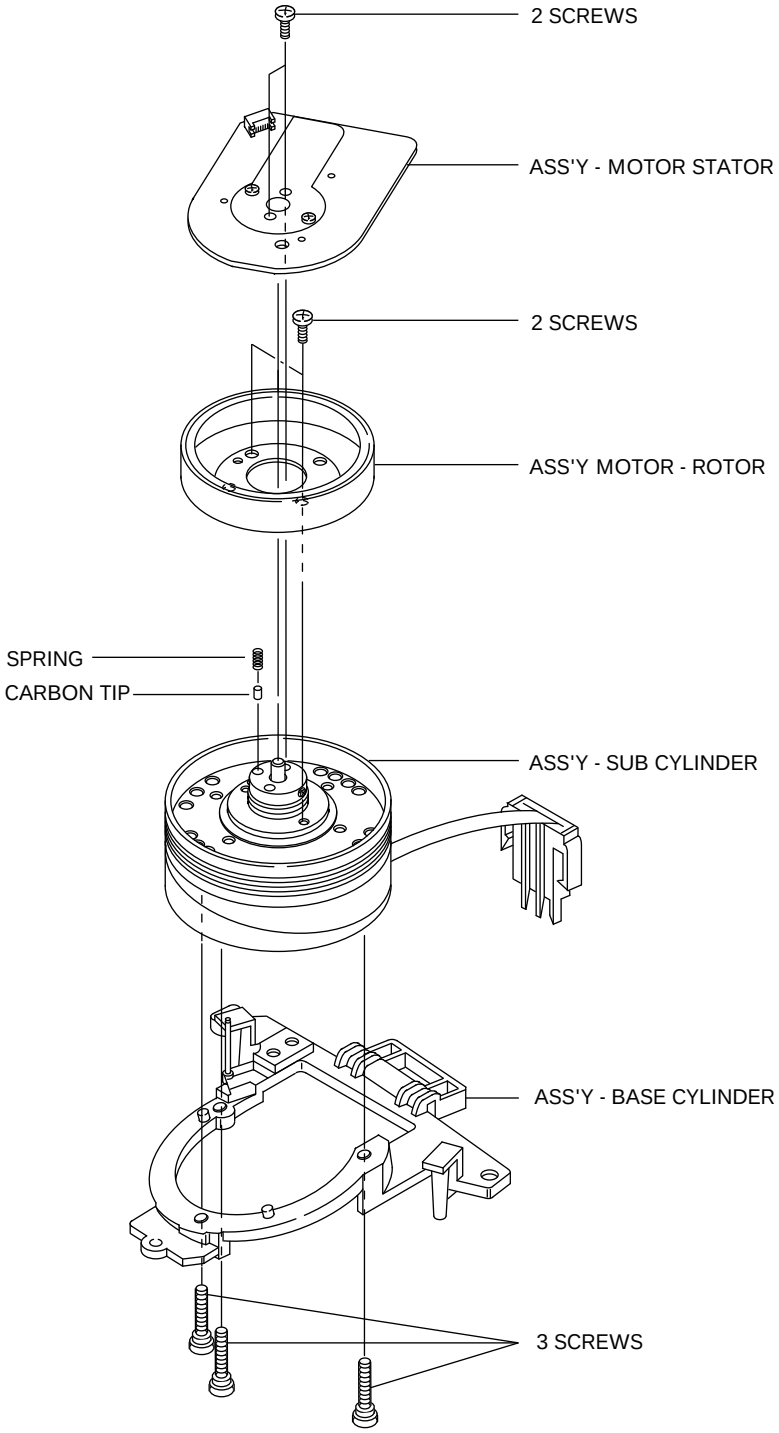


Fig. 1-11 Expleded View of Cylinder Ass'y

1-3-2 Stopper Tape Removal (Only for Deck : DX7-A/DX8-A)

1. Release 1 tab ① in the direction of arrow "A". (Refer to detail drawing)
2. Lift the Tape Stopper ② in the direction of arrow "B".

Note: Stopper tape has deleted from JAN.1998

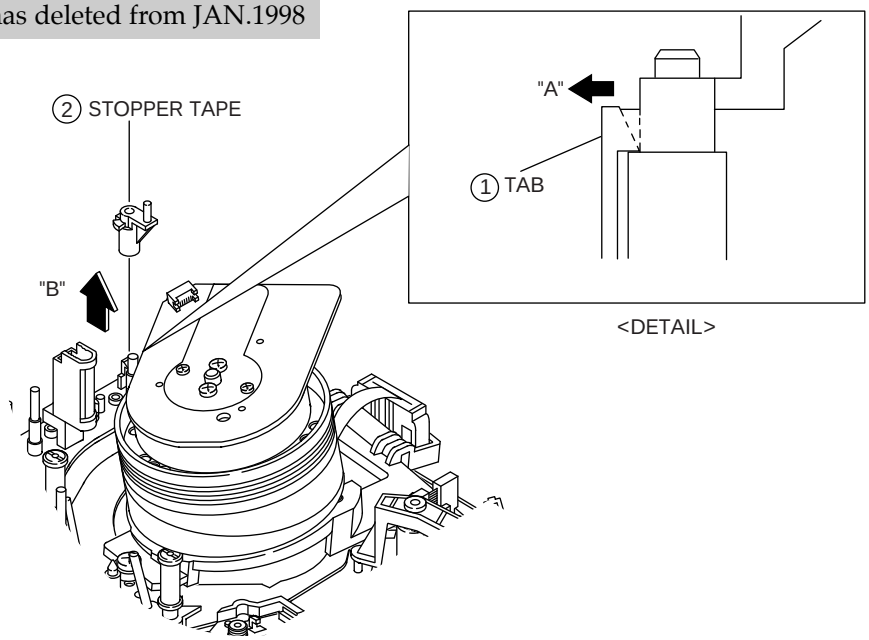


Fig. 1-12 Stopper Tape Removal

1-3-3 Head Cleaner Ass'y Removal (Only for Deck : DX7-AC/DX8-AC)

1. Release 1 tab ① in the direction of arrow "A". (Refer to detail drawing)
2. Lift the Head Cleaner ② in the direction of arrow "B".

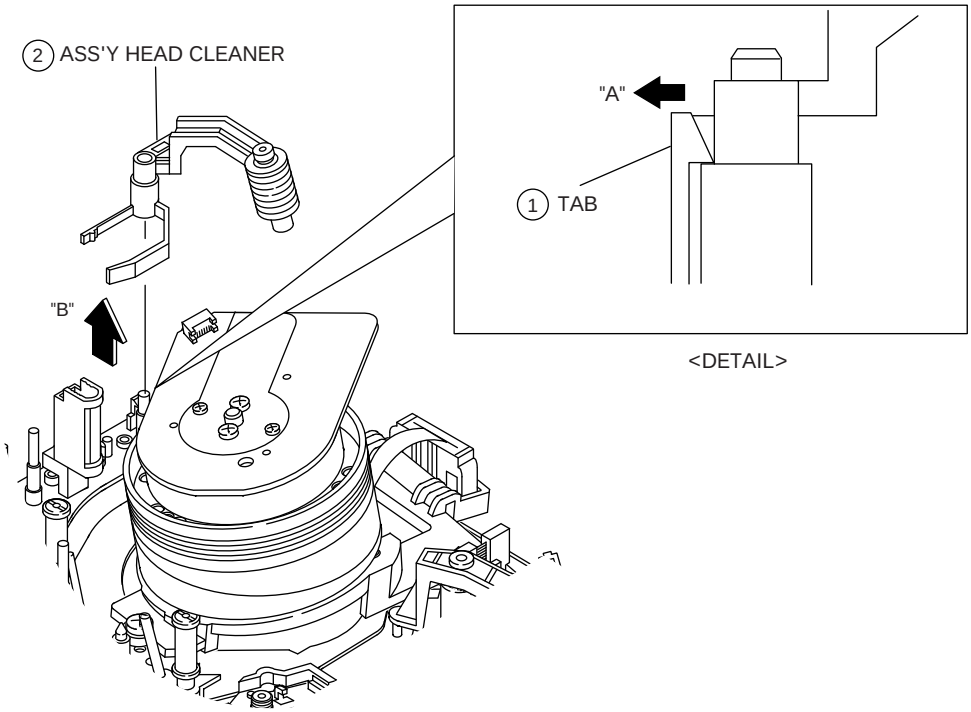


Fig. 1-13 Head Cleaner Ass'y Removal

1-3-4 Cylinder Ass'y Removal from Main Base

1. Remove 3 Screws ① holding the Main Base and the Cylinder Ass'y.
2. Lift the Cylinder Ass'y ② in the direction of arrow.

Note : Do not touch the video heads during removal or installation.

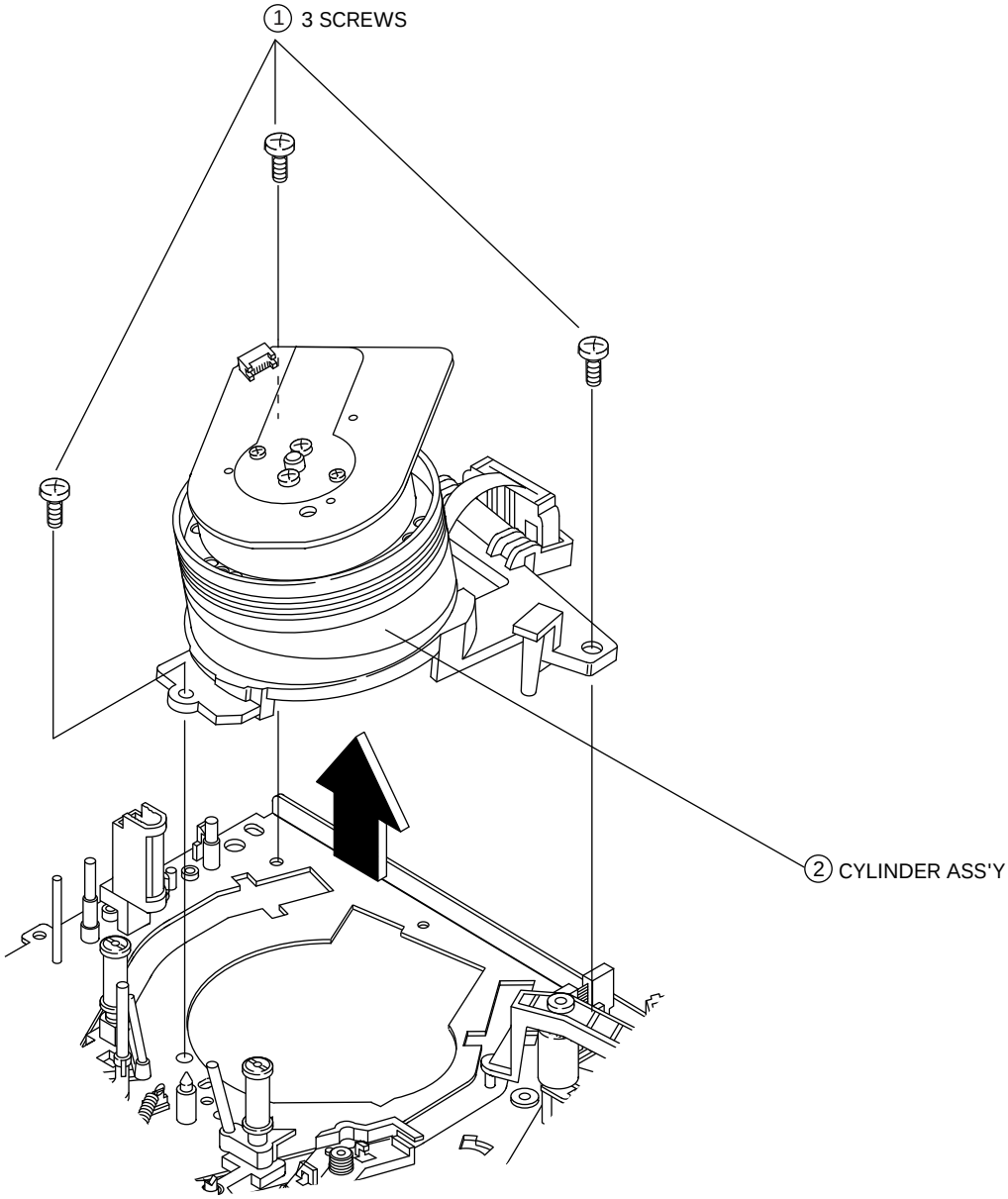


Fig. 1-14 Cylinder Ass'y Removal from Main Base

1-3-5 Holder FPC Removal

1. Release the Holder FPC tab holding the Cylinder Base ② in the direction of arrow. (Refer to detail drawing)
2. Disconnect the Holder FPC ① from the Cylinder Base ②.

Note : When disconnecting the FPC Holder ① from the Cylinder Base ② :
Take care not to disconnect the FPC cable from the FPC Holder (The FPC cable is very short).

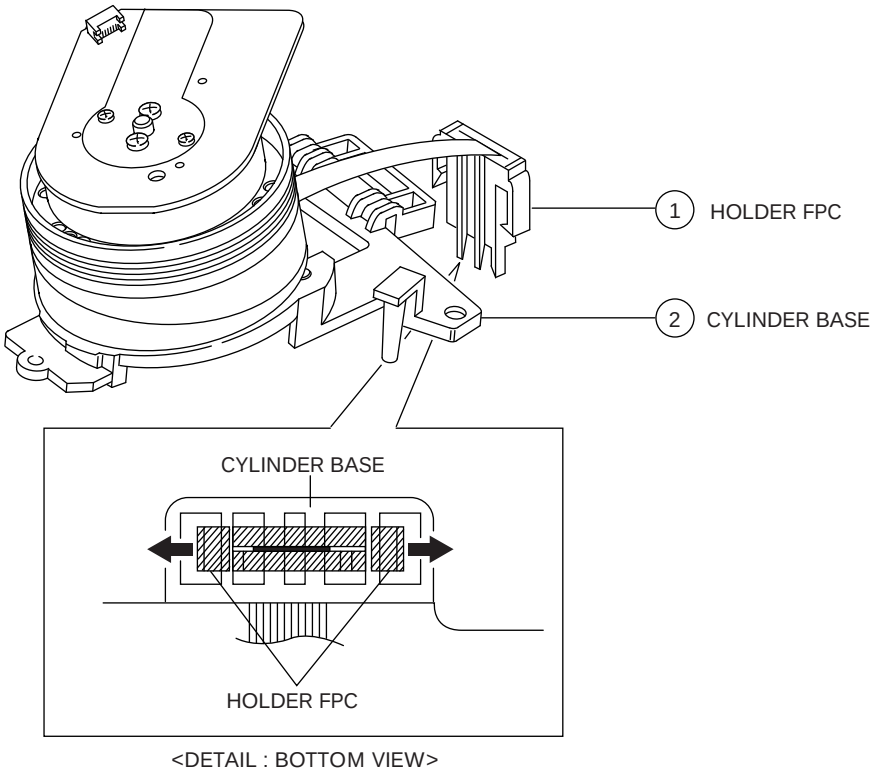


Fig. 1-15 Head Brush and Holder FPC Removal

1-3-6 Cylinder Ass'y Removal from Cylinder Base

1. Remove 3 Screws ① from the Cylinder Base ②.
2. Lift the Cylinder Ass'y ③ from the Cylinder Base ② in the direction of arrow.

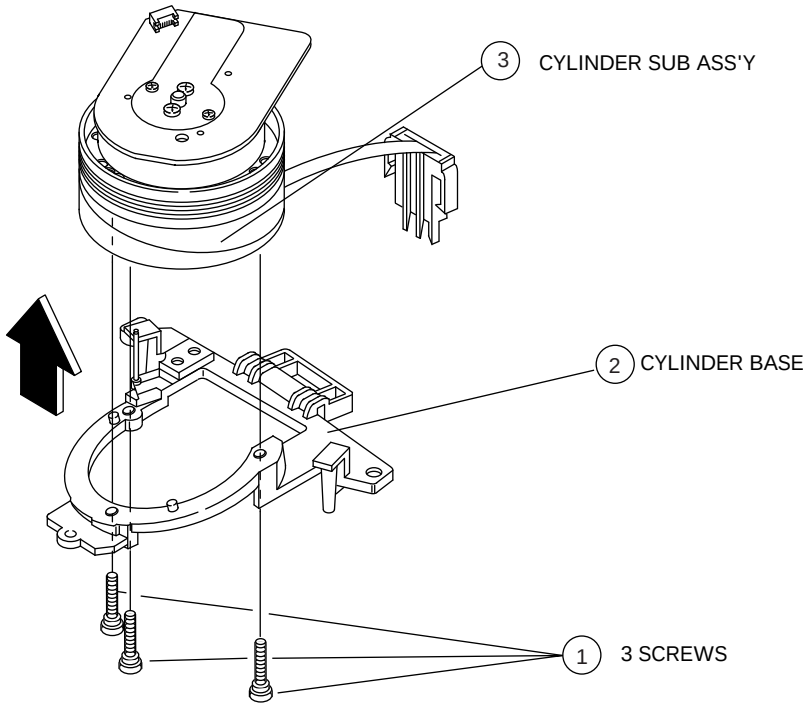


Fig. 1-16 Cylinder Ass'y Removal from Cylinder Base

1-3-7 Motor Stator Removal

1. Remove 2 Screws ①.
2. Remove the Motor Stator ② from the Cylinder Sub Ass'y ⑤.

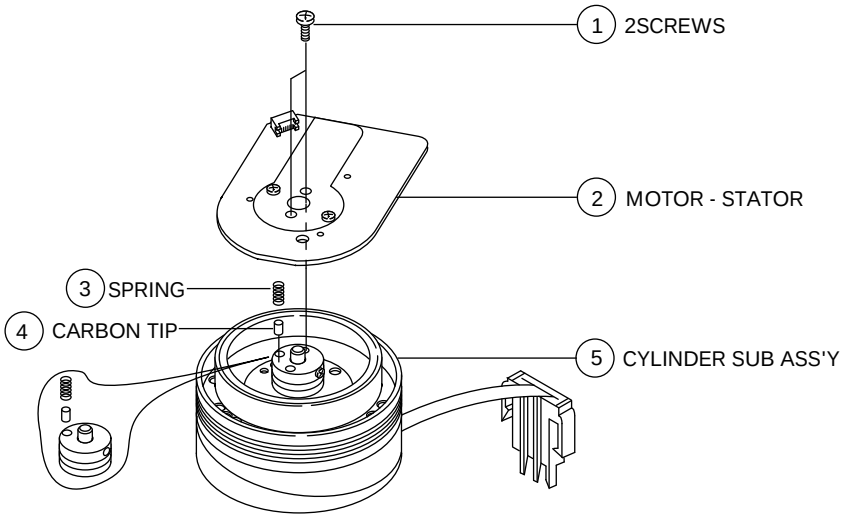


Fig. 1-17 Motor Stator Removal

Note : When disassembling the Motor-Stator, take extreme care not to loose the carbon-tip and spring.

1-3-8 Motor Rotor Removal

1. Remove 2 Screws ①.
2. Lift The Motor Rotor②.

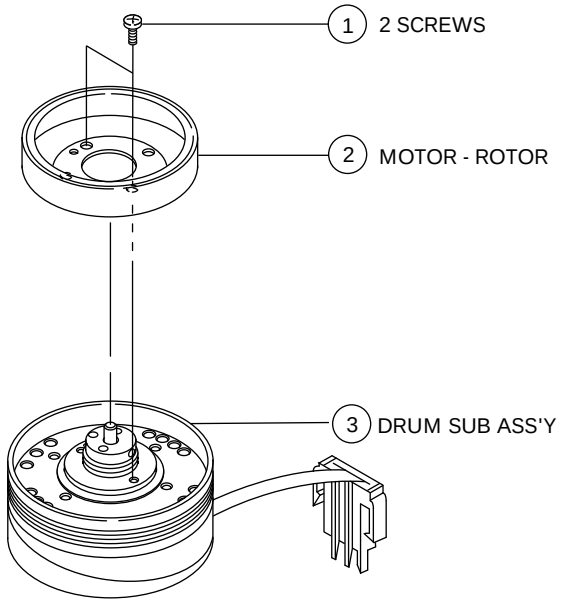


Fig. 1-18 Motor Rotor Removal

1-3-9 Motor Rotor and Cylinder Sub Ass'y

1. Make sure that phase matching holes of the Motor Rotor and the Cylinder Sub Ass'y are aligned correctly as shown in Fig. 1-19 (Refer to phase matching hole).
2. Secure with 2 Screws.

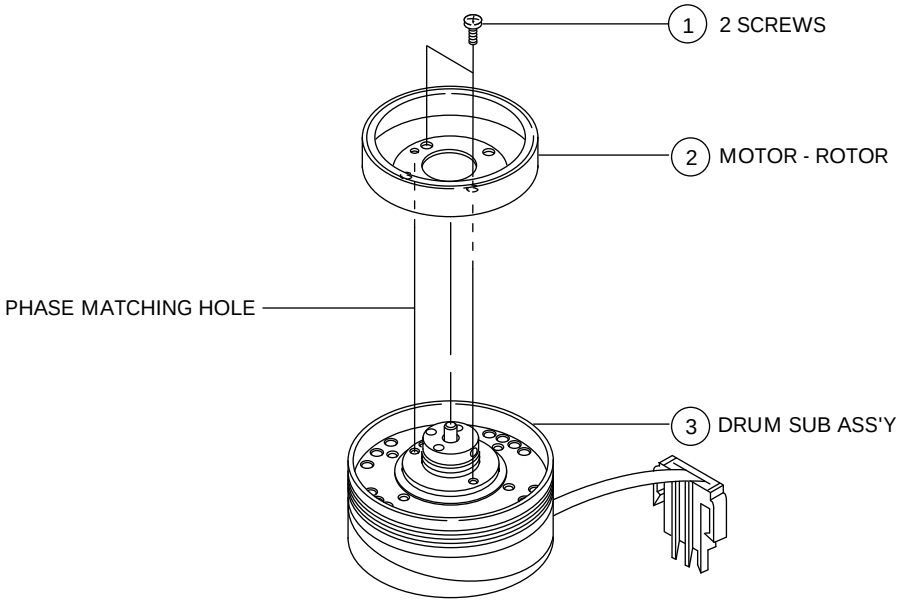


Fig. 1-19 Assembly of Motor Rotor and Cylinder Sub Ass'y

1-3-10 Motor Stator and Cylinder Sub Ass'y

1. Reinstall the Motor Stator ① toward the FPC cable of Cylinder Sub Ass'y ②.
2. Secure 2 Screws. (Refer to Fig. 1-17)

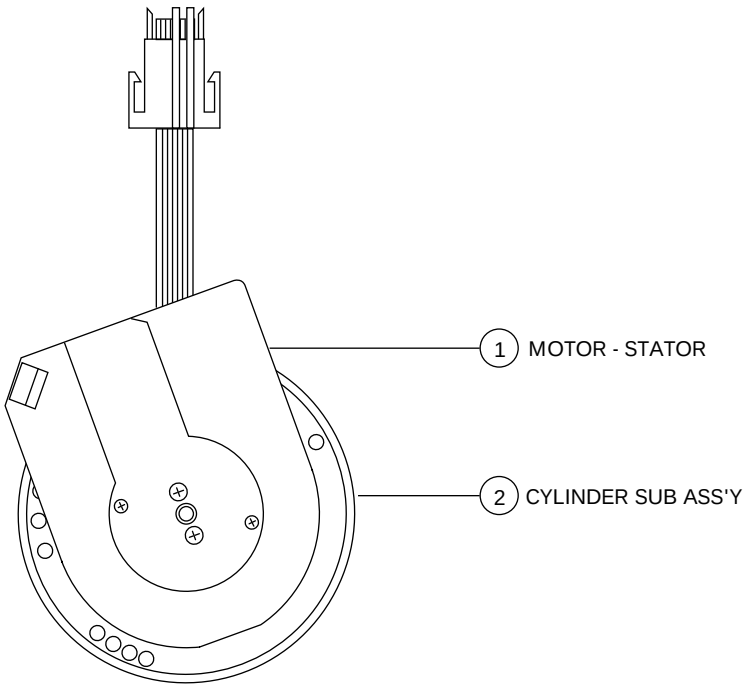


Fig. 1-20 Assembly of Motor Stator and Cylinder Sub Ass'y

1-4 Main Deck Removal and Reassembly

1-4-1 Slide Rack Housing Removal

1. Lift the Slide Rack Housing.

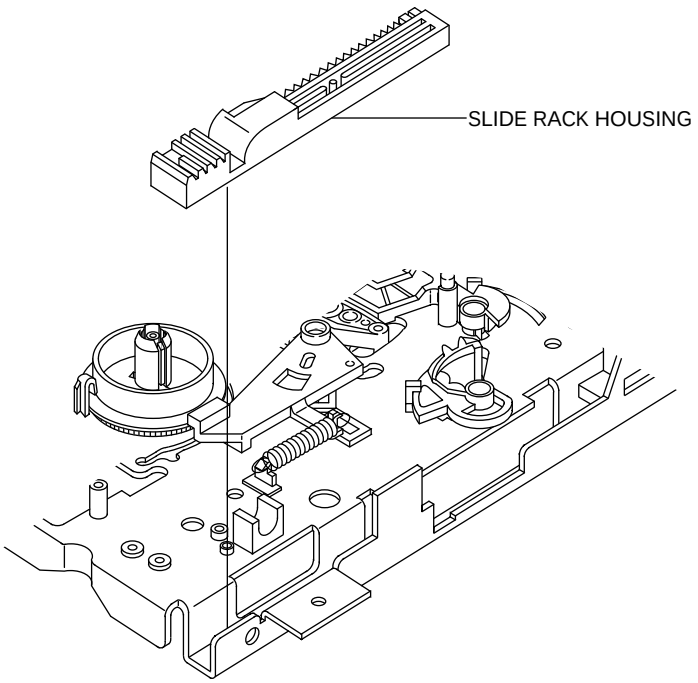


Fig. 1-21 Slide Rack Housing Removal

1-4-2 Assembly of Slide Rack Housing and Gear Master

1. Confirm that the hole of Master Gear ① and the hole "A" of Main Base are aligned correctly. (Eject mode)
2. Align the Slot #1 of Master Gear ① with the Tooth #1 of Rack Housing Slide ②. (Refer to timing point)

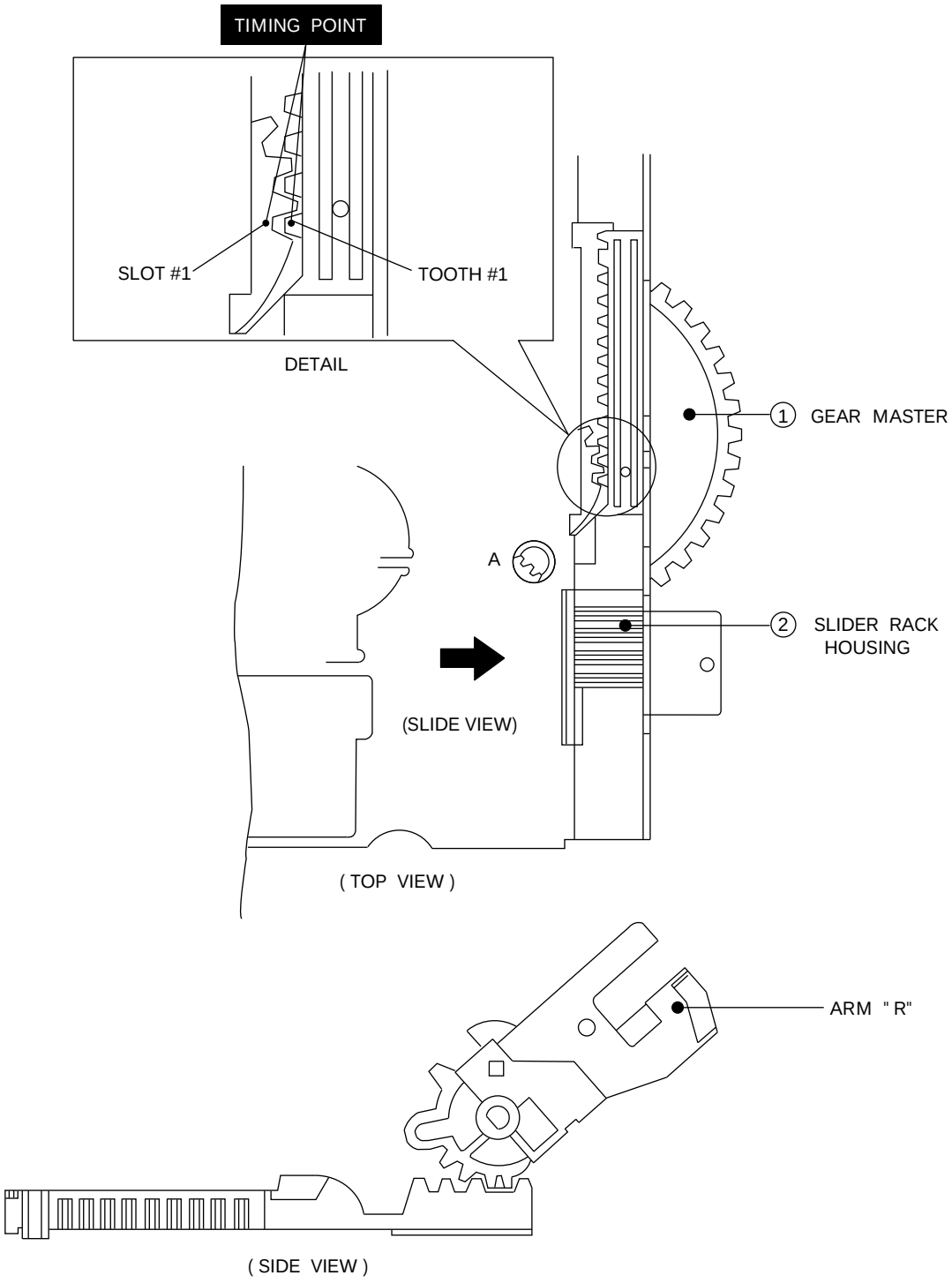
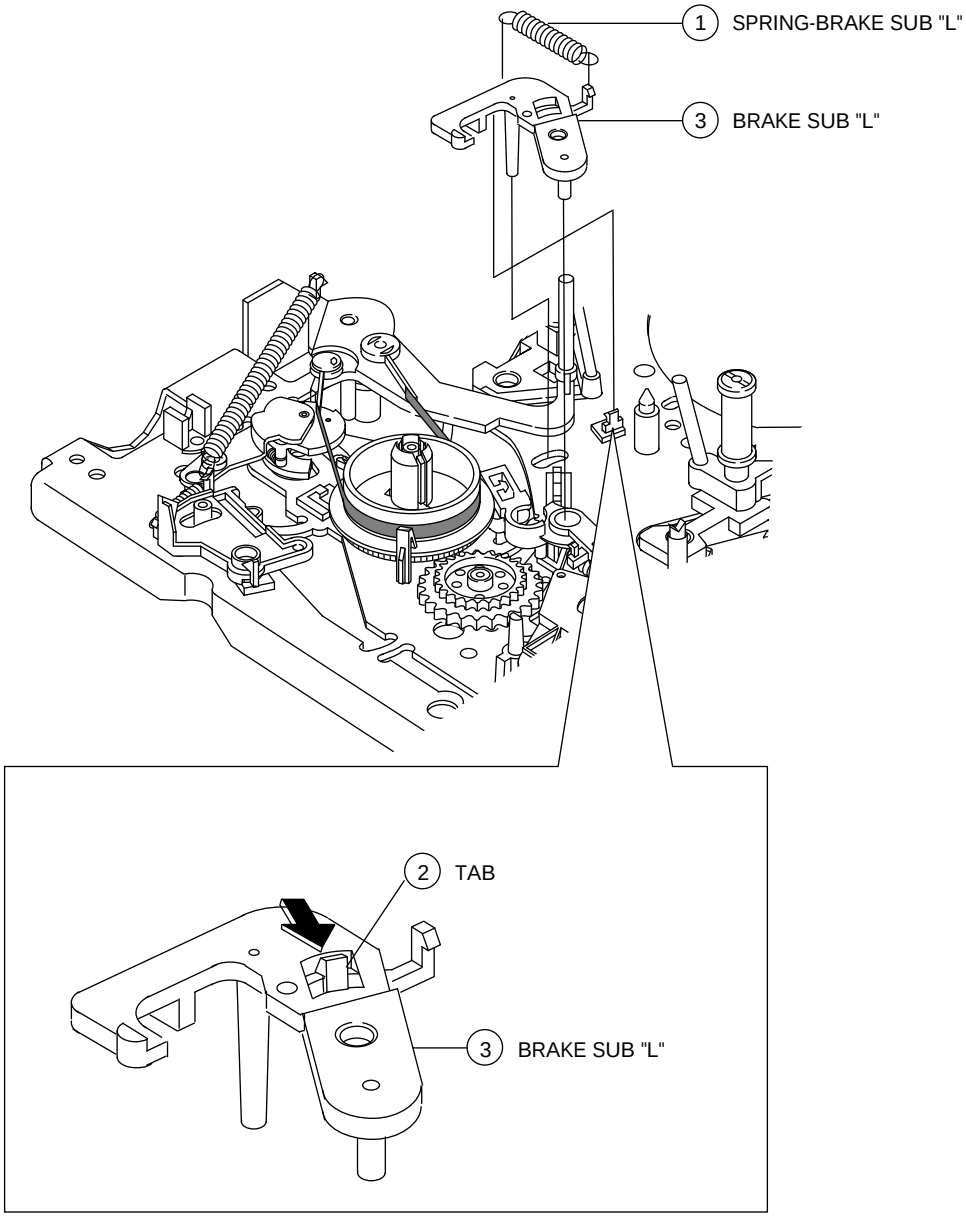


Fig. 1-22 Assembly of Slide Rack Housing and Gear Master

1-4-3 Brake Sub “L” Removal

1. Remove the Sub “L” Brake Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Sub “L” Brake ③.



<DETAIL>

Fig. 1-23 Brake Sub “L” Removal

1-4-4 Arm Tension Full Ass'y Removal

1. Remove the Tension Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Full Tension Arm Ass'y ③.

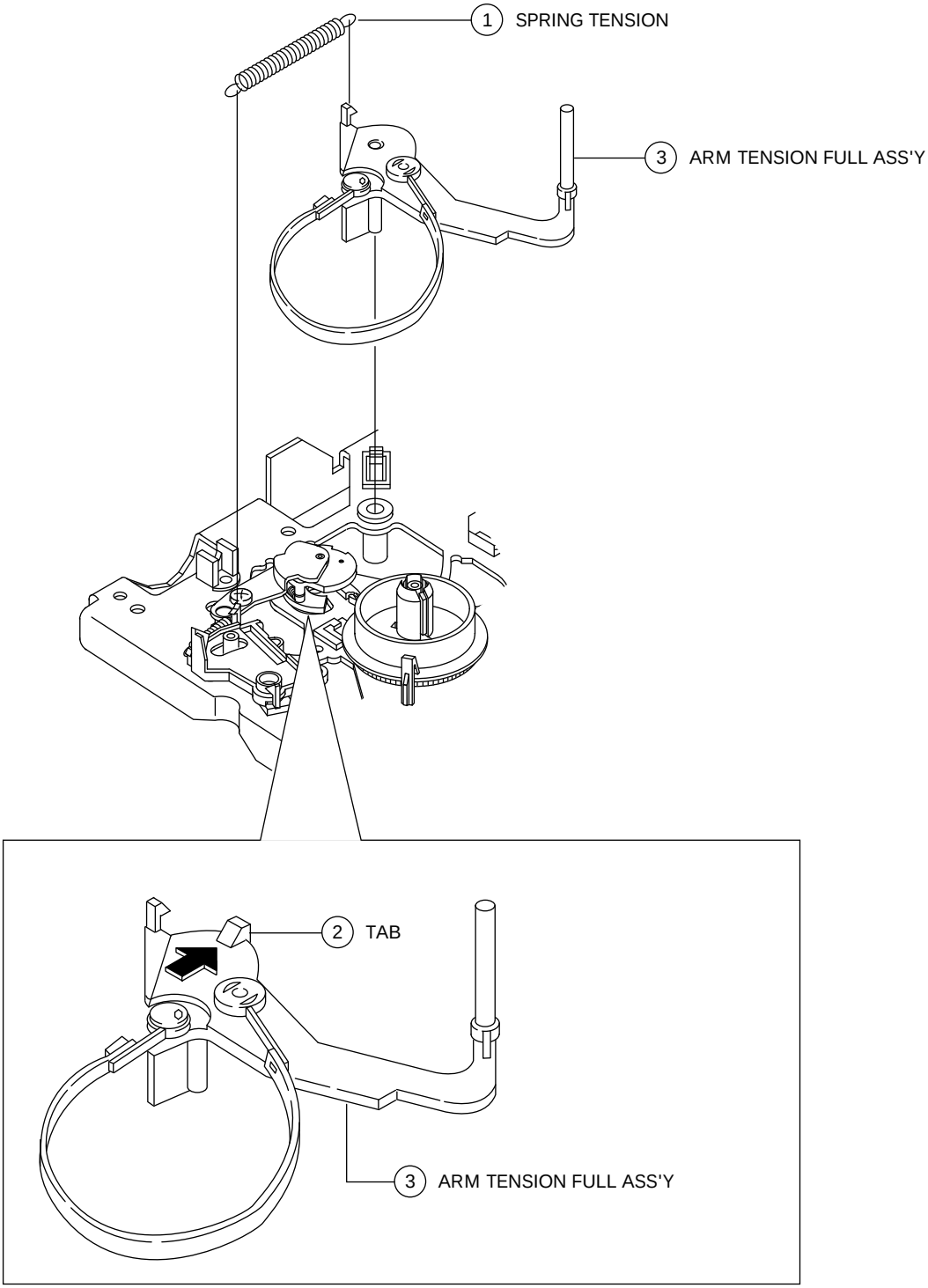


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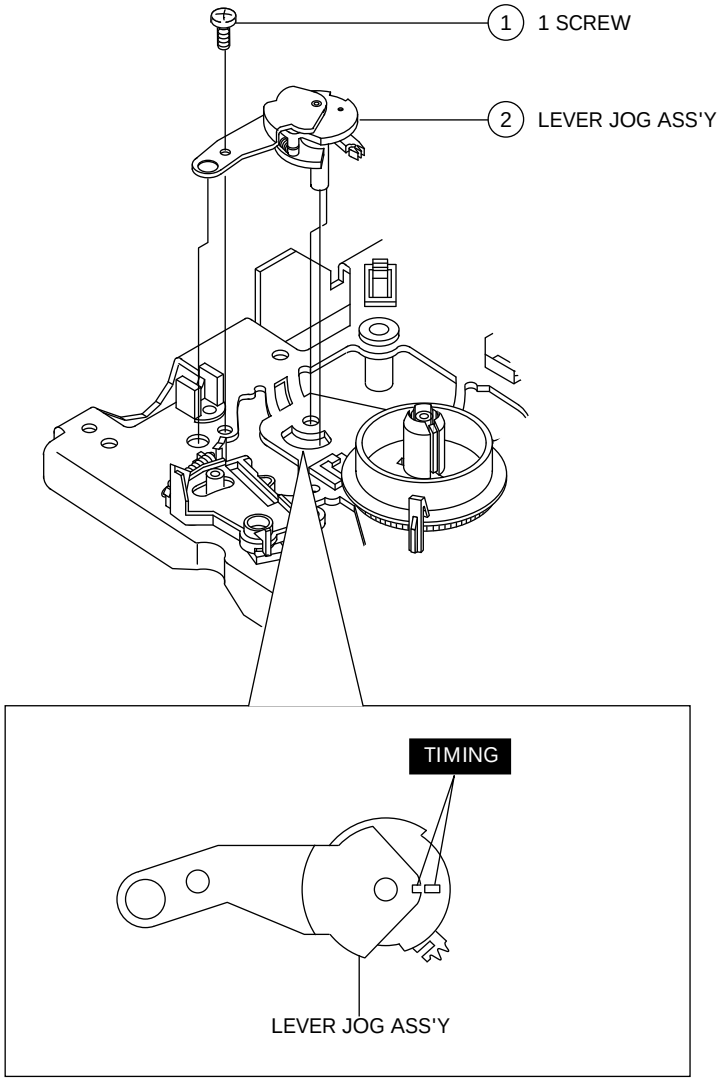
Fig. 1-24 Arm Tension Full Ass'y Removal

1-4-5 Lever JOG Ass'y Removal (Only for deck : DX8-A/DX8-AC)

1. Remove the 1 Screw ①.
2. Lift the JOG Lever Ass'y ②.



<TOP VIEW>

Fig. 1-25 Lever JOG Ass'y Removal

1-4-6 Reel Disk “L” and Gear Relay “S” Ass’y Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Reel Disk “L” ②.
3. Remove the Plain Washer ③.
4. Remove the Slit Washer ④.
5. Lift the Relay “S” Gear Ass’y ⑤.

Note : When reinstalling, be sure to install the Reel Disk “L” ② after installing the Plain Washer ③.

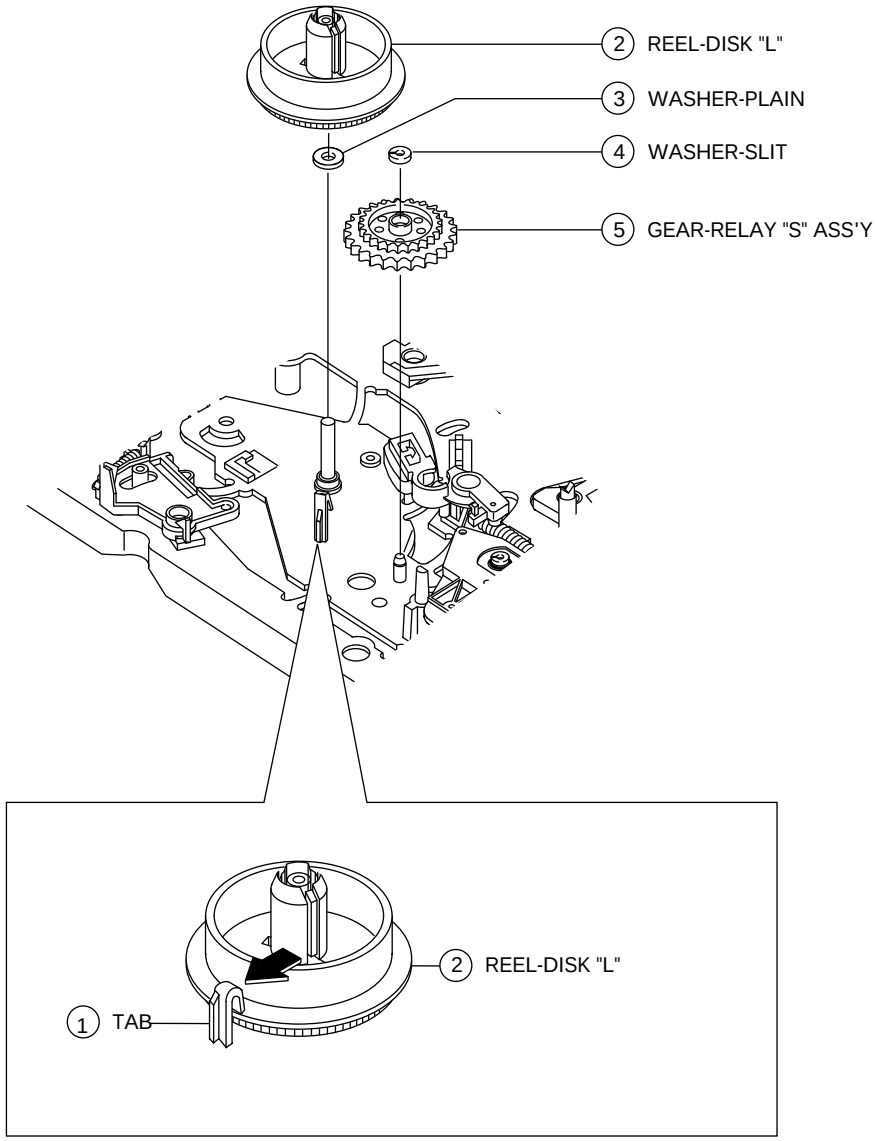
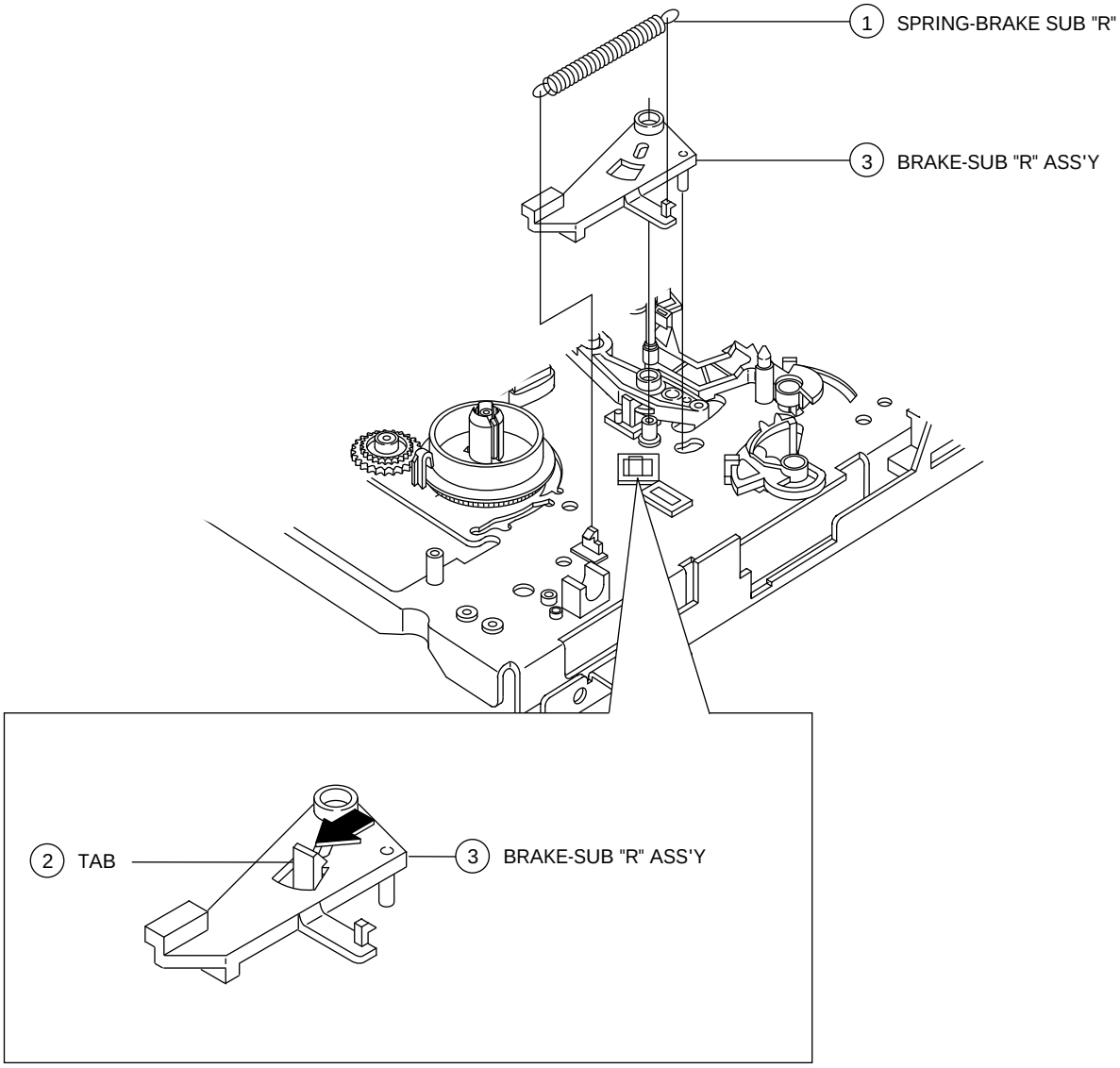


Fig. 1-26 Reel Disk “L” and Gear Relay “S” Ass’y Removal

1-4-7 Brake Sub “R” Ass’y Removal

1. Remove the Sub “R” Brake Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Brake Sub “R” Ass’y ③.



<DETAIL>

Fig. 1-27 Brake Sub “R” Ass’y Removal

1-4-8 Reel Disk “R” Ass’y and Gear Relay “T” Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Reel Disk “R” Ass’y ②.
3. Remove the Plain Washer ③.
4. Remove the Slit Washer ④.
5. Lift the Relay “T” Gear Ass’y ⑤.

Note : When reinstalling, be sure to install the Reel Disk “R” Ass’y ② after installing the Plain Washer ③.

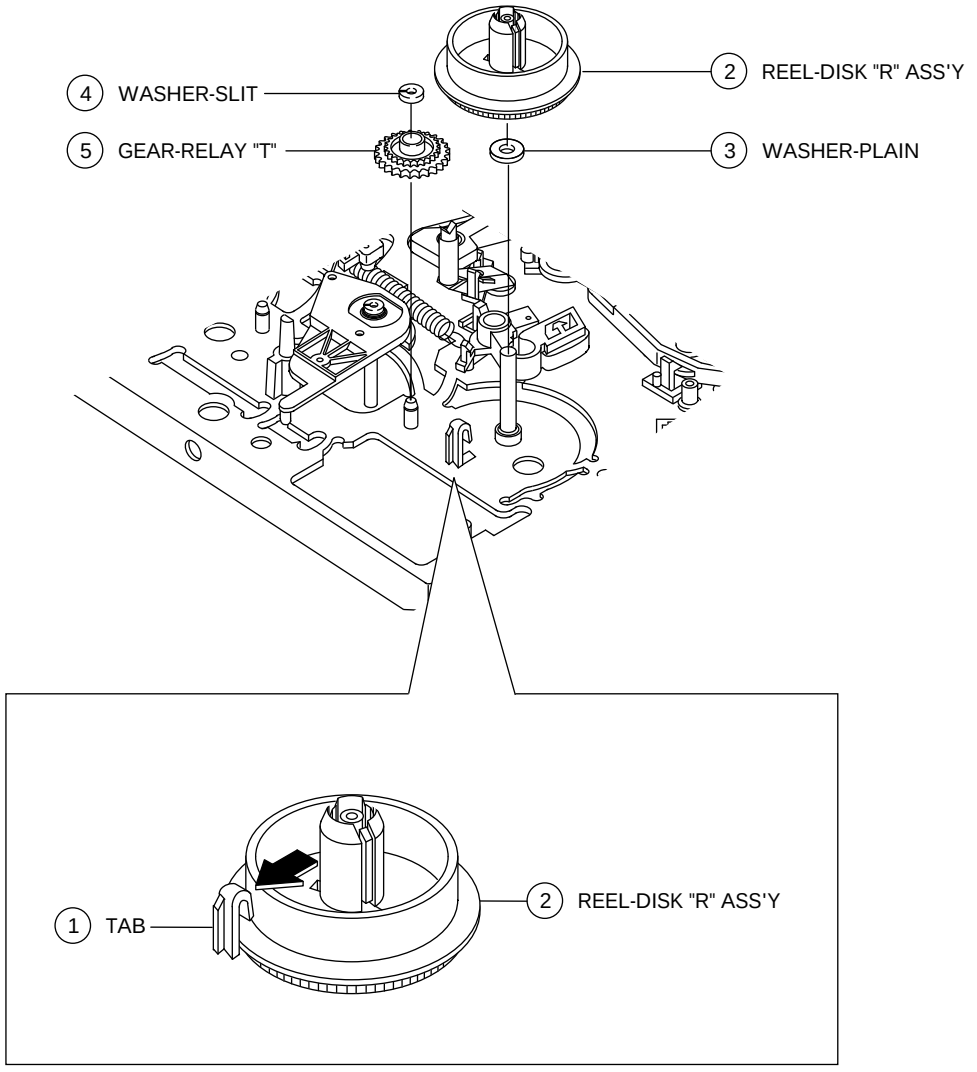


Fig. 1-28 Reel Disk “R” Ass’y and Gear Relay “T” Removal

1-4-9 Brake Main “L”, “R” Ass’y Removal

1. Release the Main Brake Spring ①.
2. Release the tab ② in the direction of arrow “A”. (Refer to detail drawing A)
3. Lift the Brake Main “L” ③.
4. Release the tab ④ in the direction of arrow “B”. (Refer to detail drawing B)
5. Lift the Main “R” Brake ⑤.

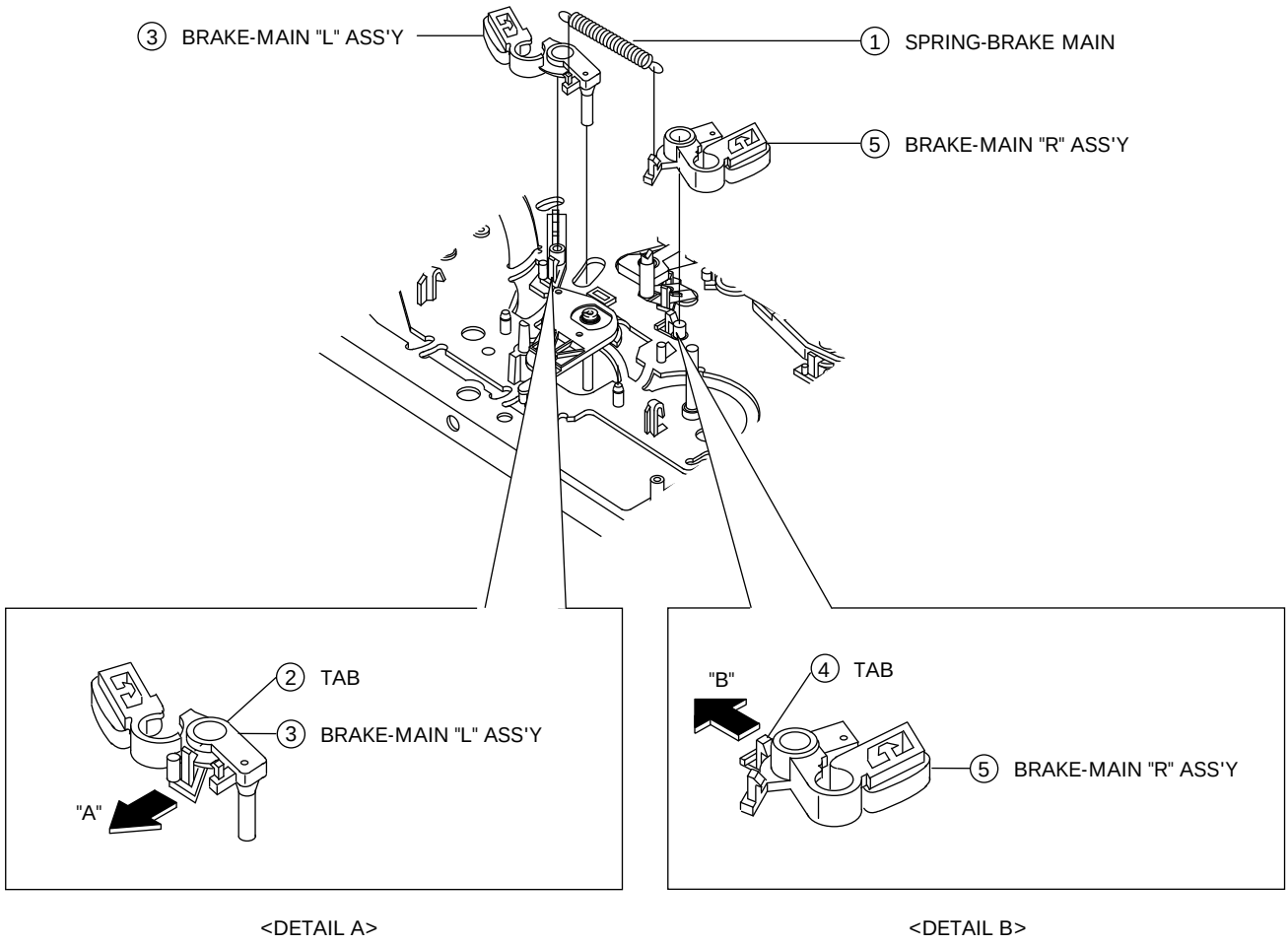


Fig. 1-29 Brake Main “L”, “R” Ass’y Removal

1-4-10 Idler Ass'y Removal

1. Remove the Slit Washer ①.
2. Lift the Idler Ass'y ②.

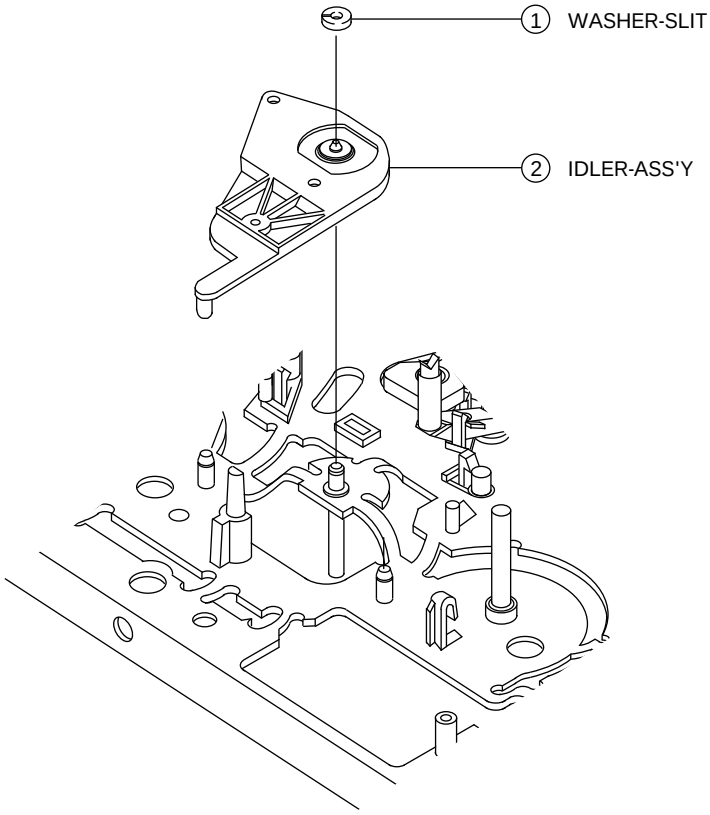


Fig. 1-30 Idler Ass'y Removal

1-4-11 Unit Pinch Roller Ass'y Removal

1. Remove the Slit Washer ①.
2. Lift the Pinch Roller Unit ②.
3. Lift the Arm Pinch Spring ③.

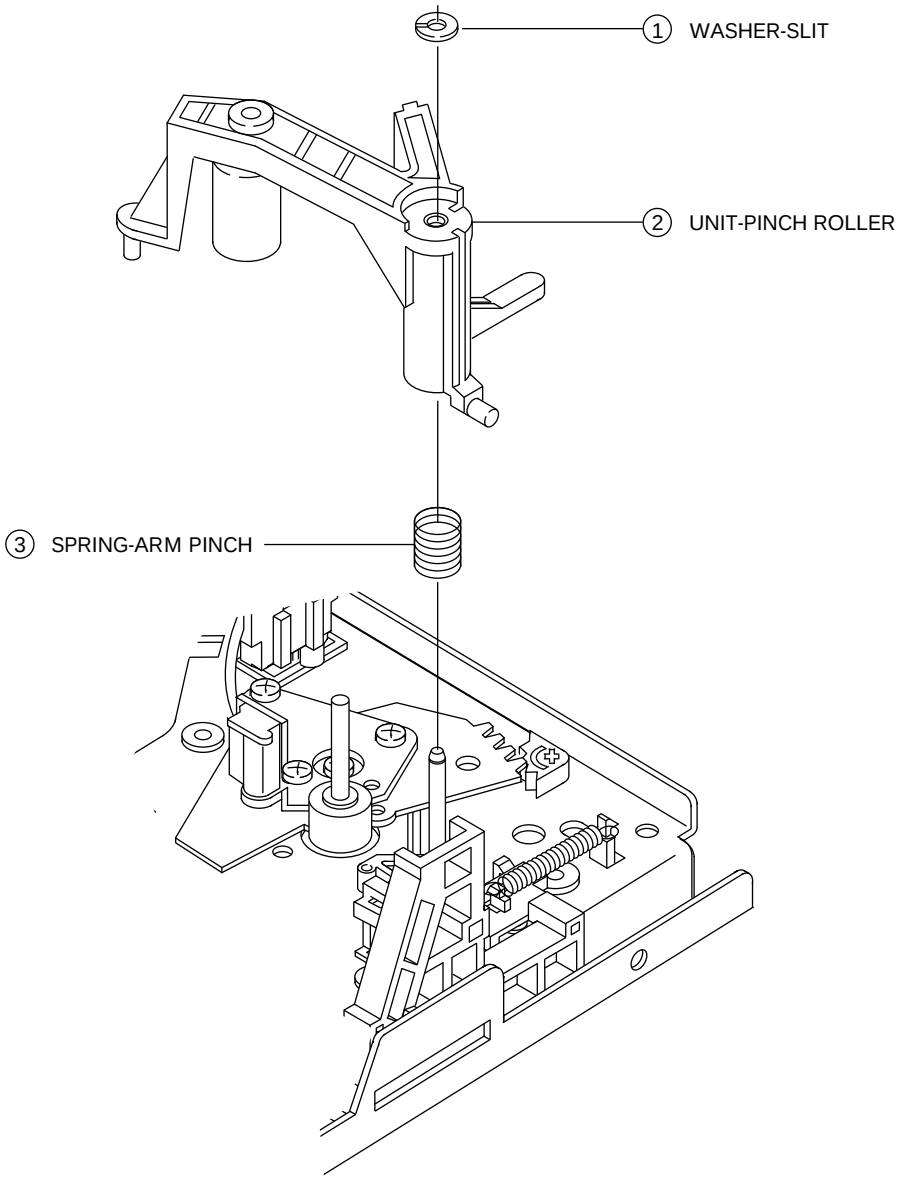


Fig. 1-31 Unit Pinch Roller Ass'y Removal

1-4-12 Assembly of Unit Pinch Roller

1. Install the Pinch Roller Unit as shown in Fig. 1-32. (Refer to A, B)

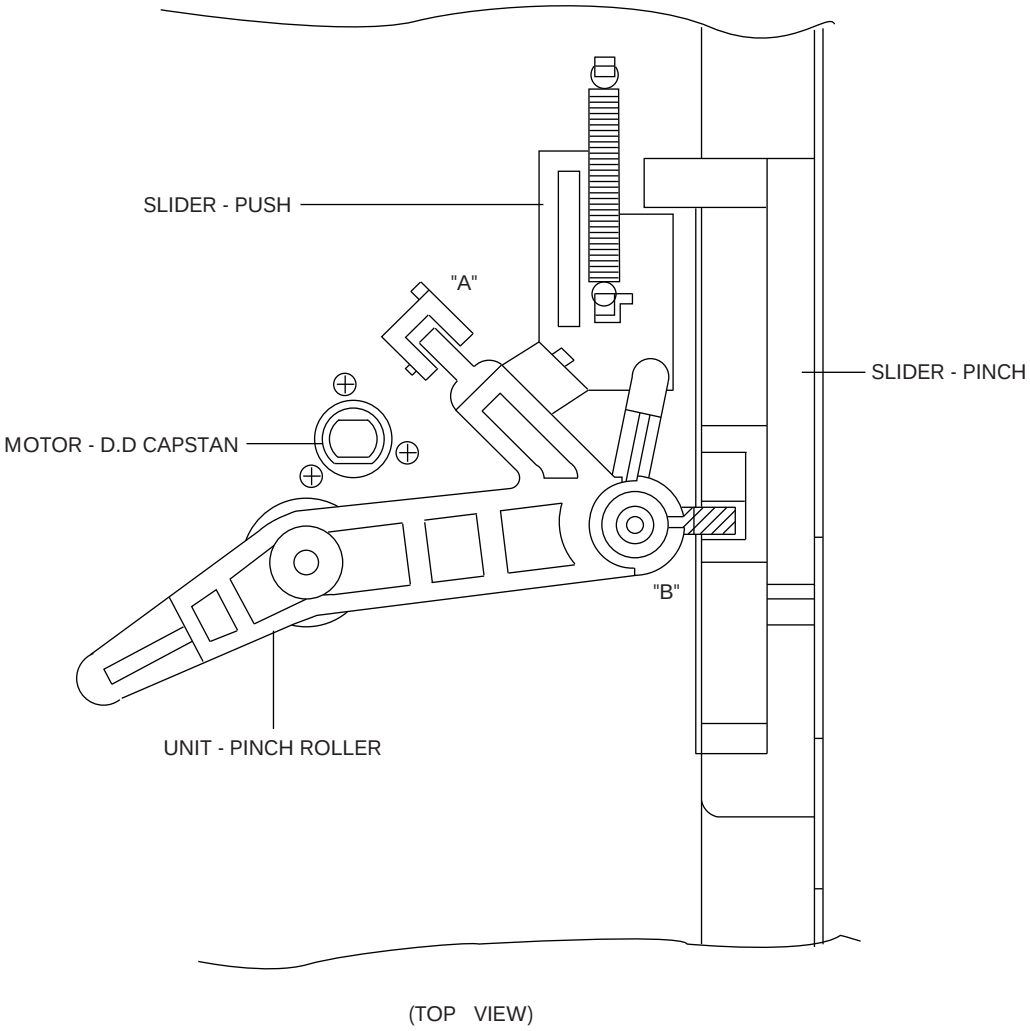


Fig. 1-32 Assembly of Unit Pinch Roller

1-4-13 Exploded View of Lever Pinch Comp Ass'y, Lever Pinch Cam, Arm Review Ass'y and Lever Review Ass'y

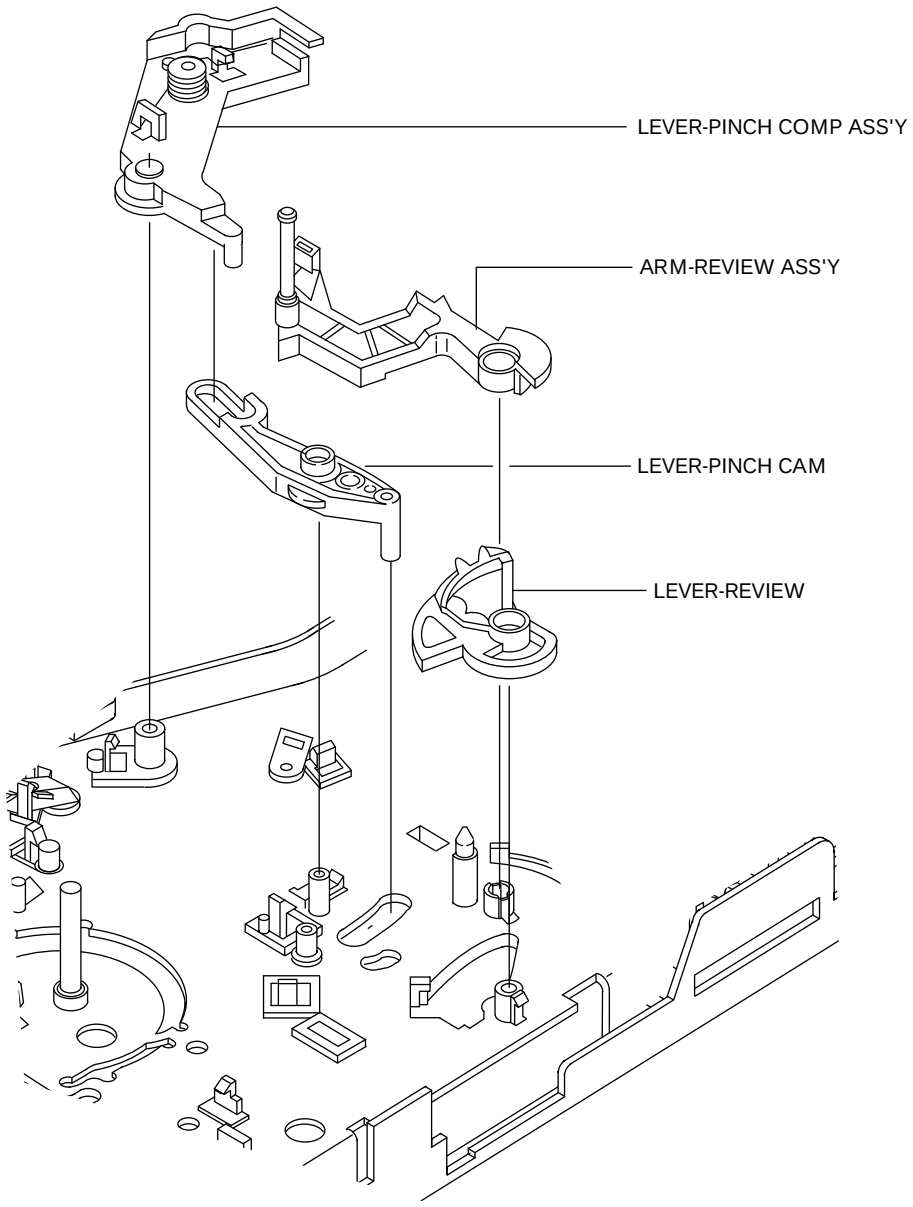
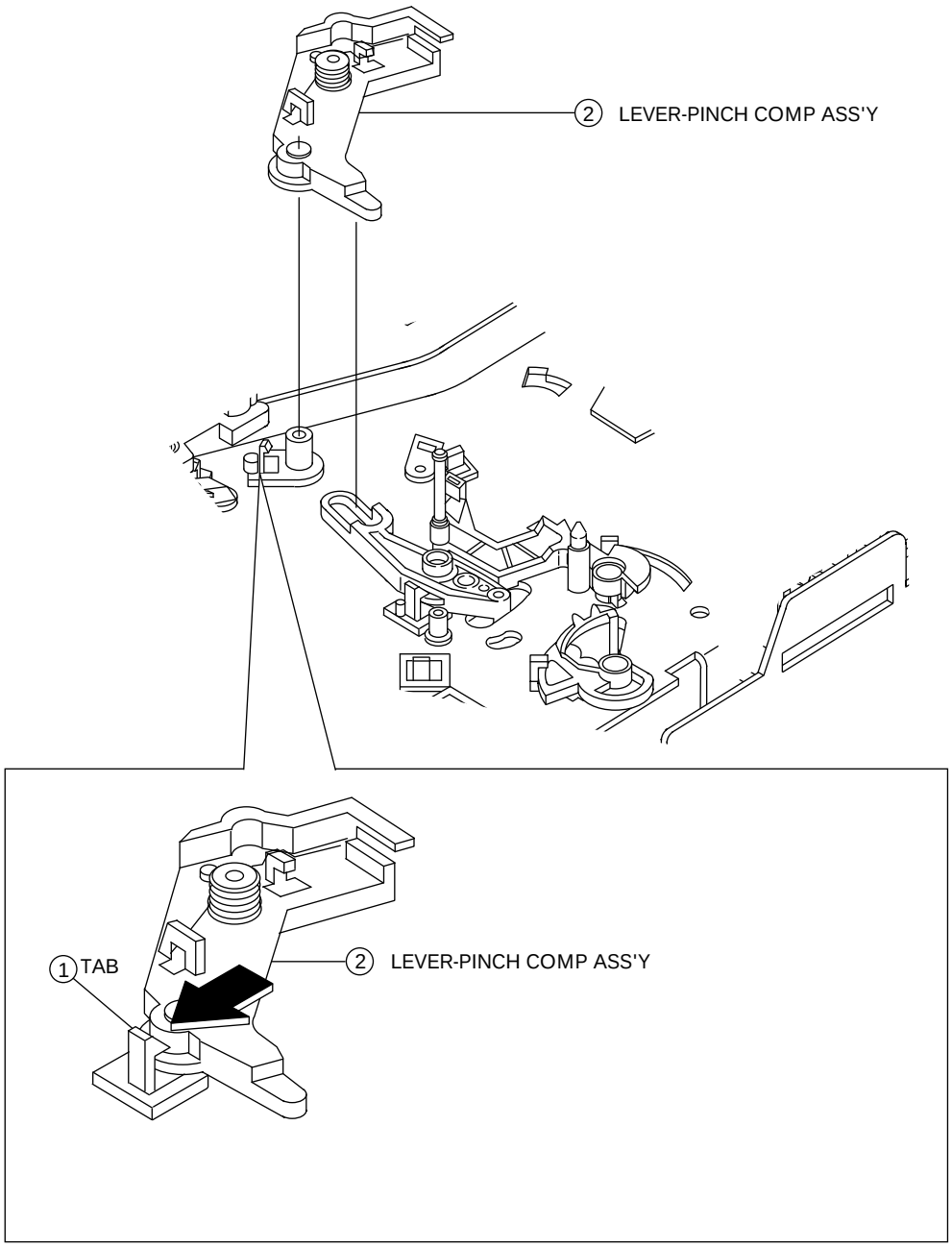


Fig. 1-33 Exploded View of Lever Pinch Comp Ass'y, Lever Pinch Cam, Arm Review Ass'y and Lever Review Ass'y

1-4-14 Lever Pinch Comp Ass'y Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Pinch Comp Lever Ass'y ②.

Note : Don't touch the Pinch Comp Lever Ass'y ① to Audio Head Base during removal.

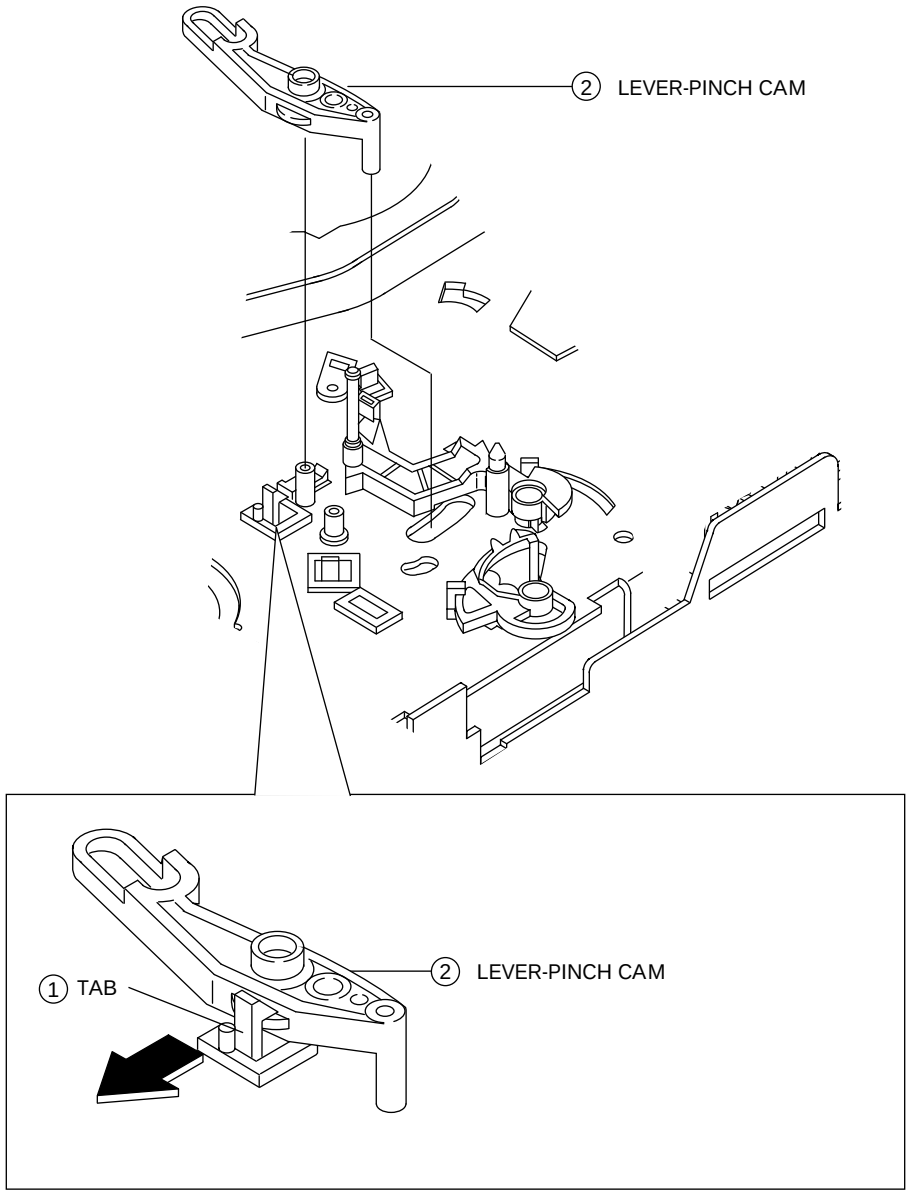


<DETAIL>

Fig. 1-34 Lever Pinch Comp Ass'y Removal

1-4-15 Lever Pinch Cam Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Pinch Cam Lever ②.



<DETAIL>

Fig. 1-35 Lever Pinch Cam Removal

1-4-16 Arm Review Ass'y Removal

1. Push the Stopper tab ① in the direction of arrow.
2. Pull the Review Arm Ass'y ② in the direction of arrow "A" and then confirm "B". (Refer to detail drawing "A")
3. Release the tab ③ in the direction of arrow and then lift the Review Arm Ass'y ②.

Note : Take extreme care not to damage when removing the Review Arm Ass'y ②. (B part of detail drawing A)

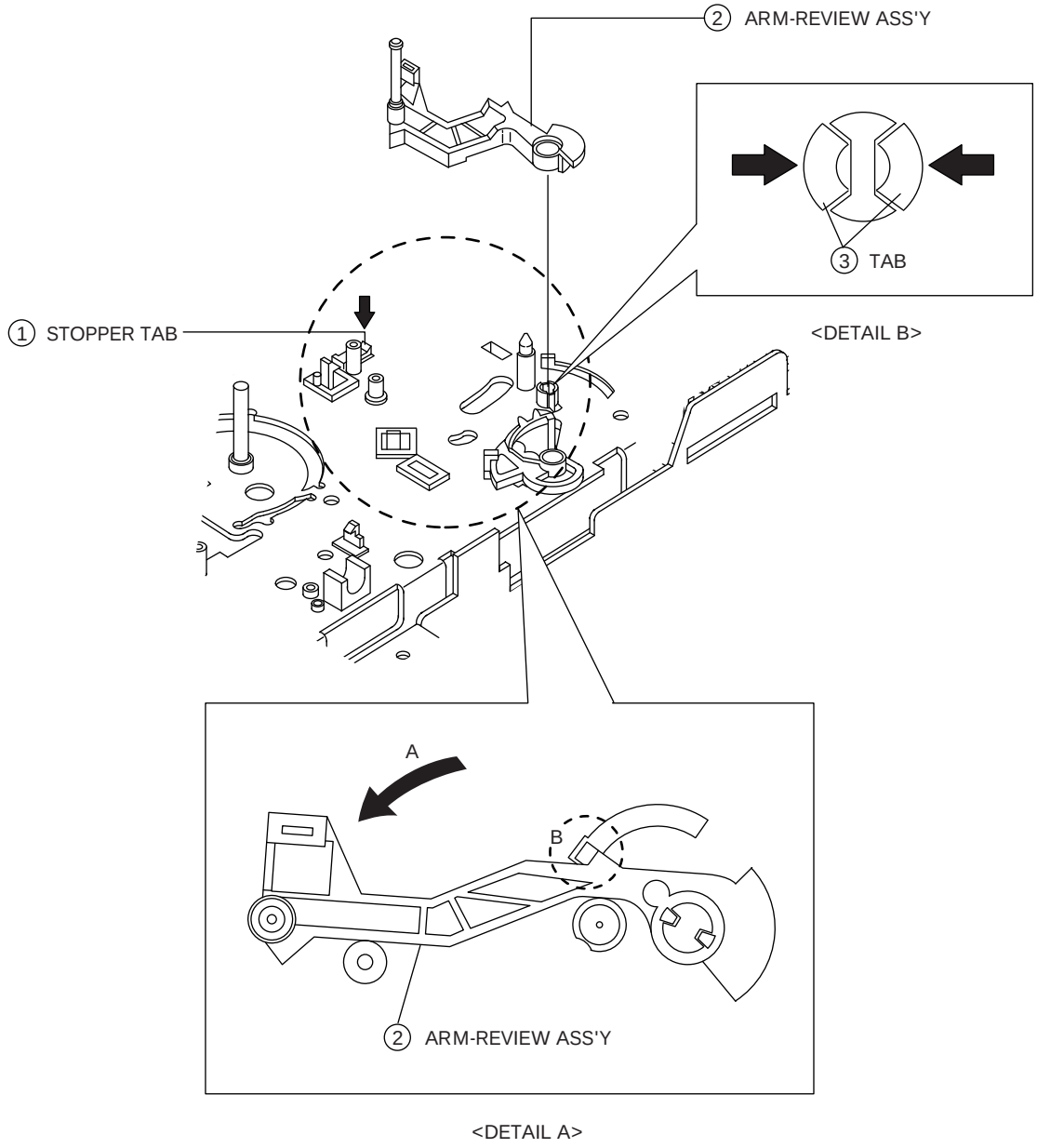


Fig. 1-36 Arm Review Ass'y Removal

1-4-17 Lever Review Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the Review Lever ②.

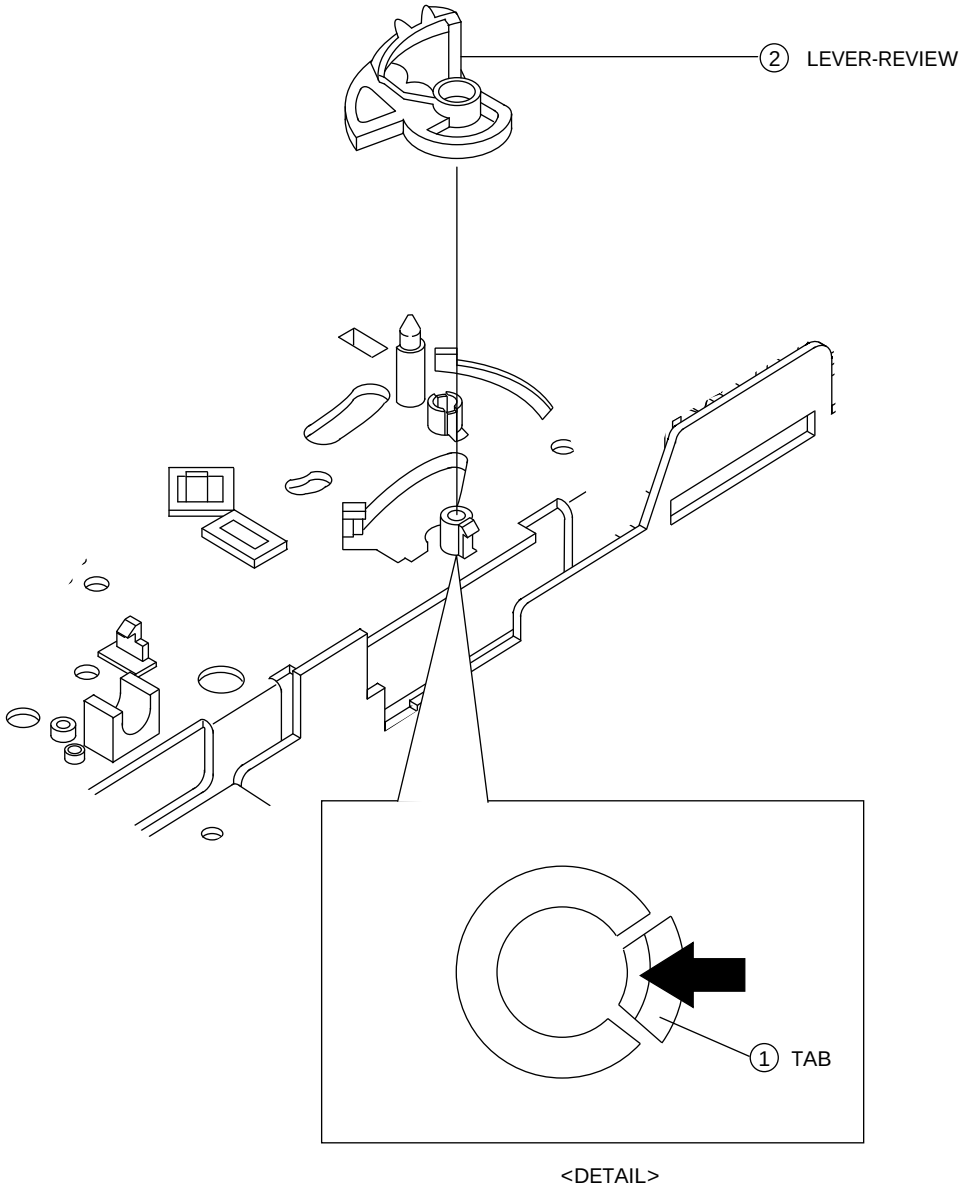


Fig. 1-37 Lever Review Removal

1-4-18 Belt Capstan Removal

1. Remove the Capstan Belt ①.

Note : Take extreme care not to touch the grease when removing or reinstalling.

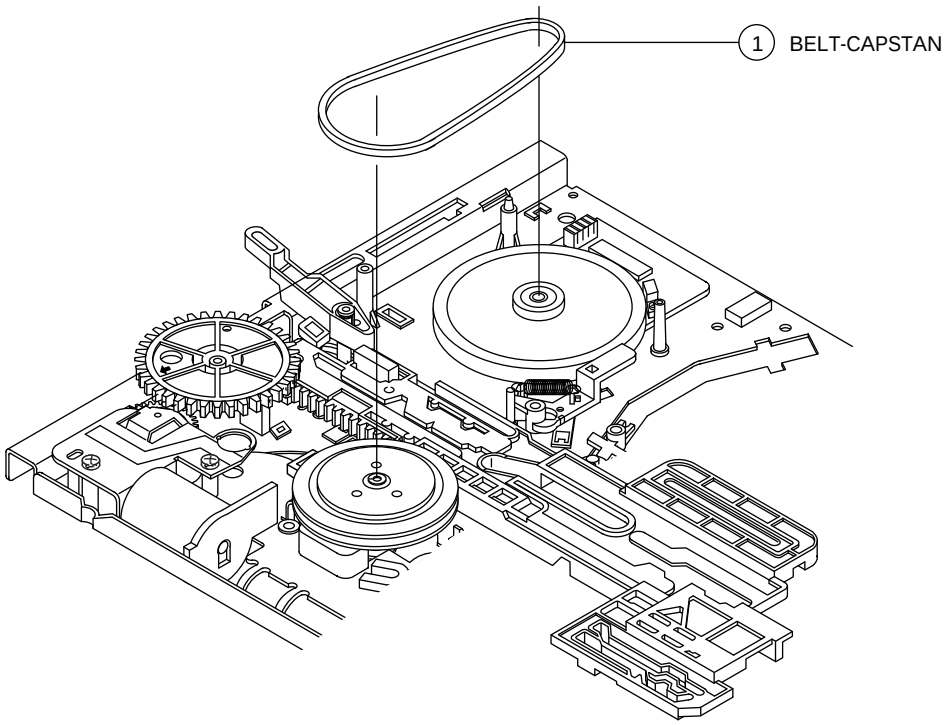


Fig. 1-38 Belt Capstan Removal

1-4-19 Brake Capstan Ass'y Removal

1. Remove the Brake Capstan Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Capstan Brake Ass'y ③.

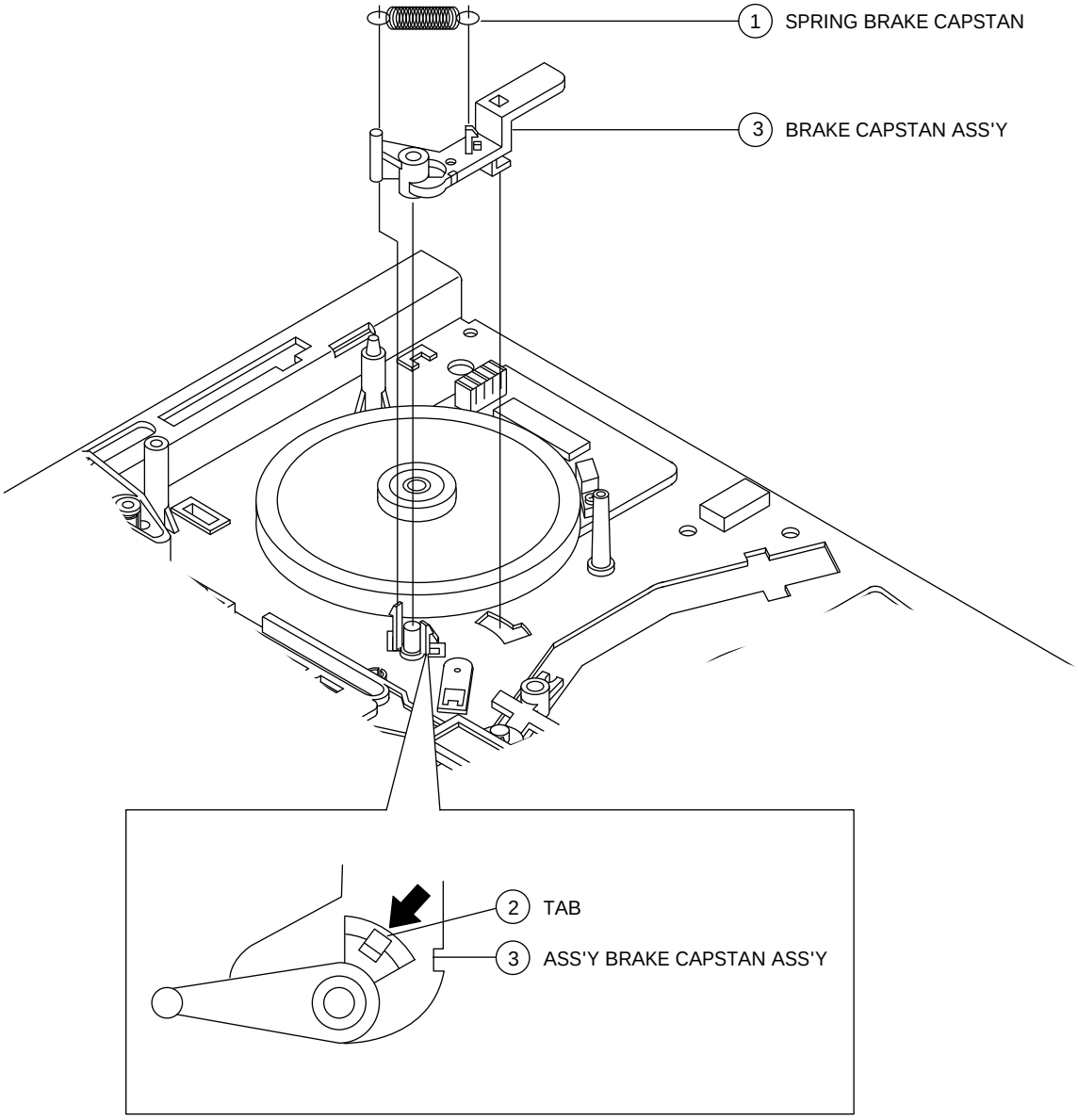


Fig. 1-39 Brake Capstan Ass'y Removal

1-4-20 Motor D.D Capstan Removal

1. Remove 3 Screws ①. (Top view)
2. Lift the Capstan D.D Motor ② in the direction of arrow. (Bottom view)

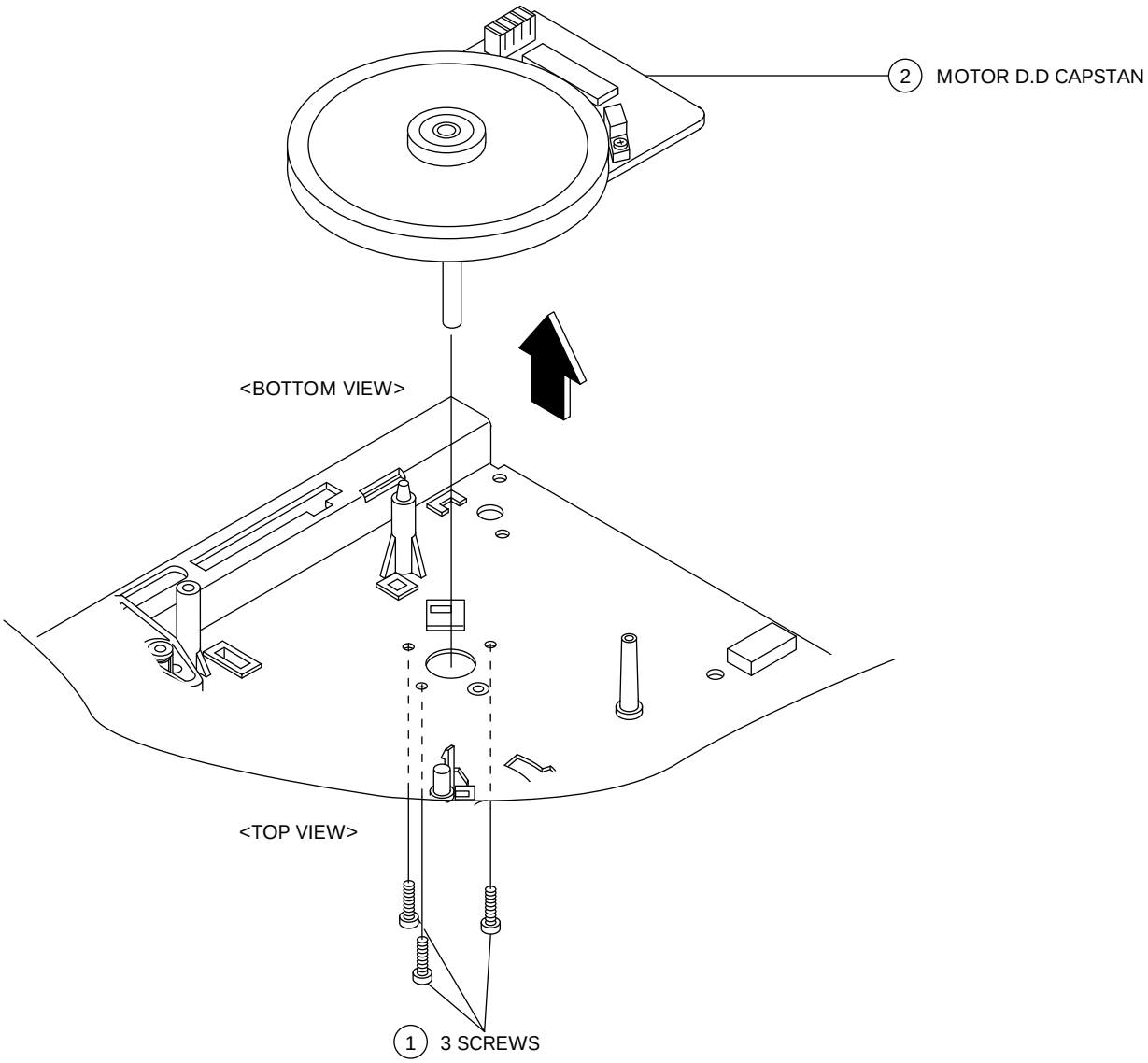


Fig. 1-40 Motor D.D Capstan Removal

1-4-21 Clutch Ass'y Removal

1. Remove the Slit Washer ①.
2. Lift the Clutch Ass'y ②.
3. Remove the Plain Washer ③.

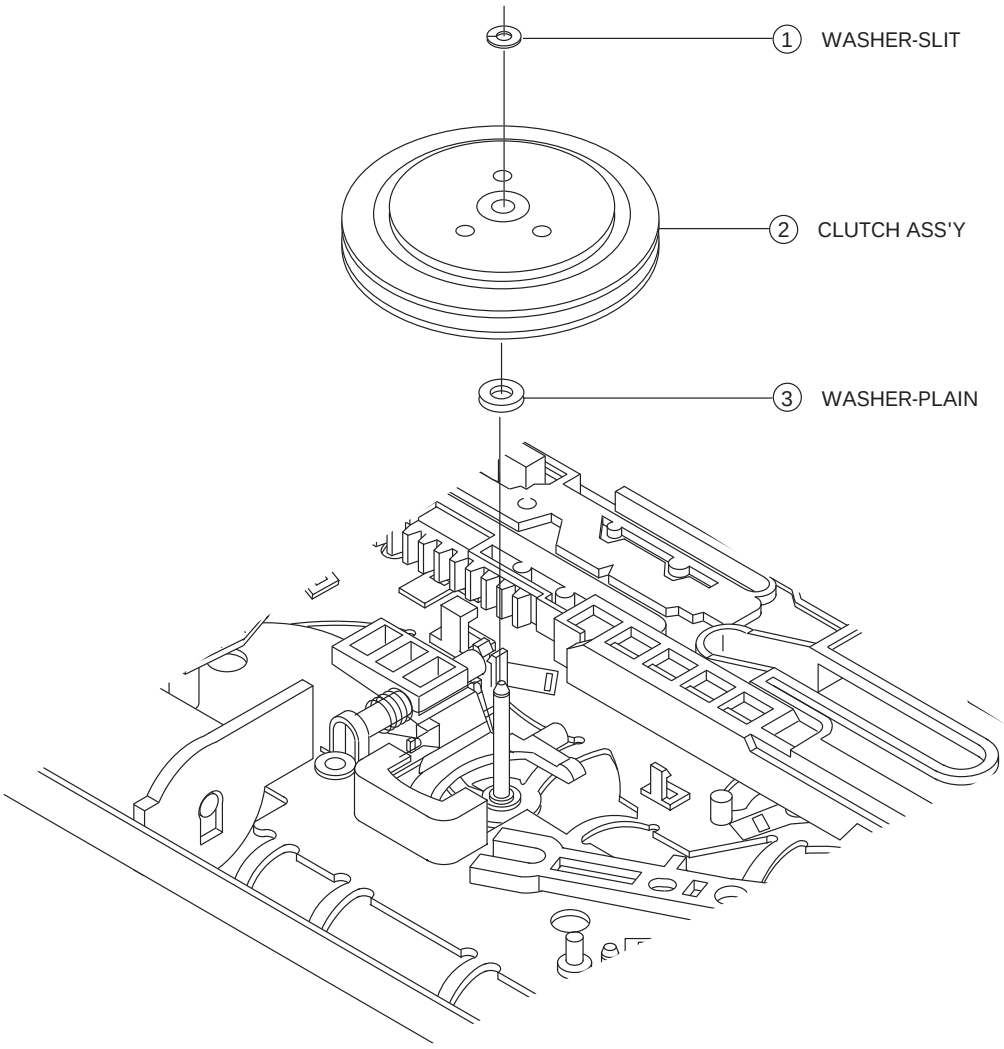


Fig. 1-41 Clutch Ass'y Removal

1-4-22 Gear Master Removal

1. Remove the Slit Washer ①.
2. Lift the Master Gear ②.

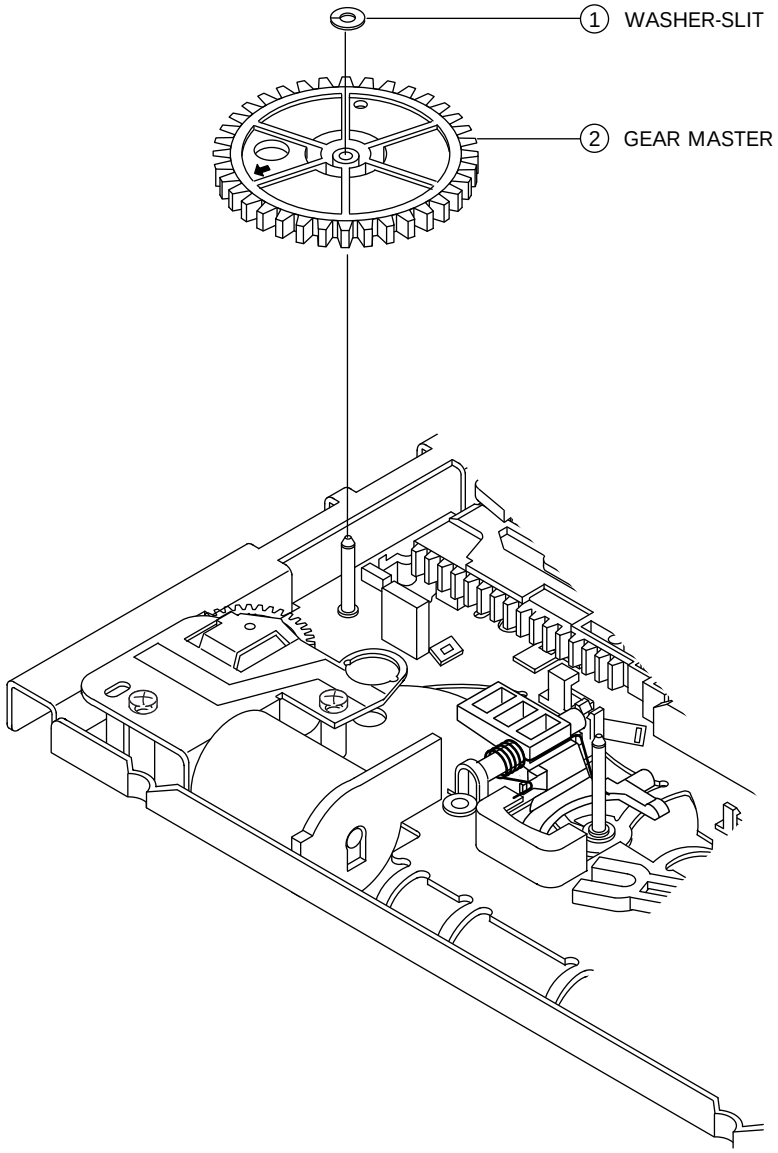


Fig. 1-42 Gear Master Removal

1-4-23 Assembly of Gear Master

1. When reinstalling, be sure to align the arrow of the Master Gear ① with home Gear of the Worm-Wheel Gear ②. (Refer to timing point)

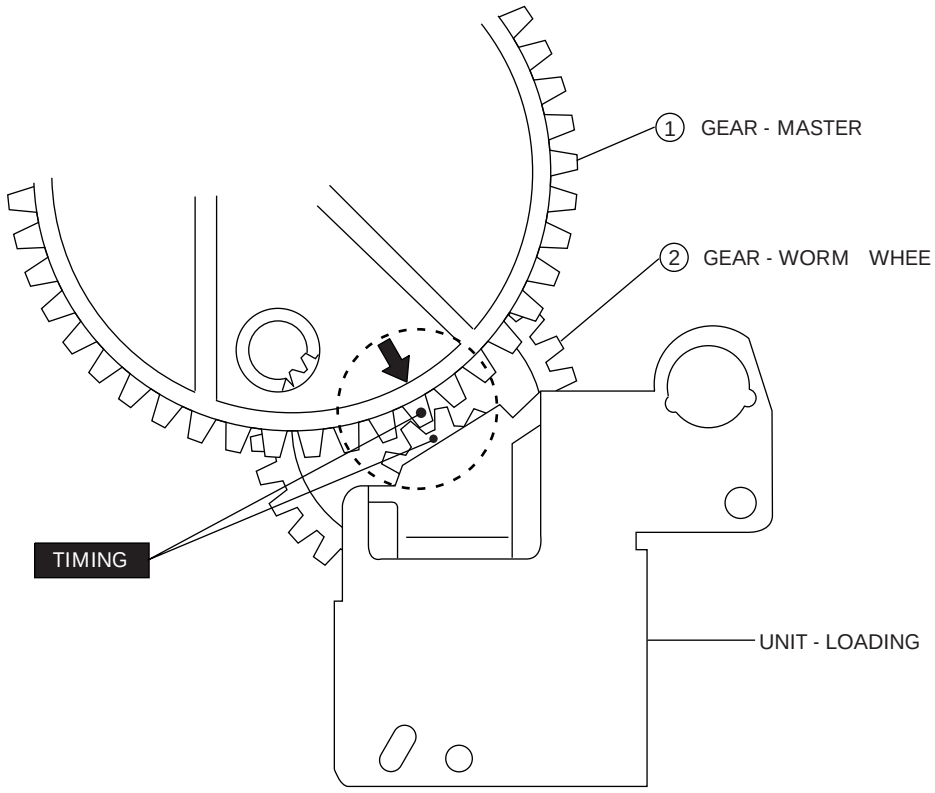


Fig. 1-43 Assembly of Gear Master

1-4-24 Unit Loading Removal

1. Remove 2 Screws ①.
2. Lift the Loading Unit ② in the direction of arrow.

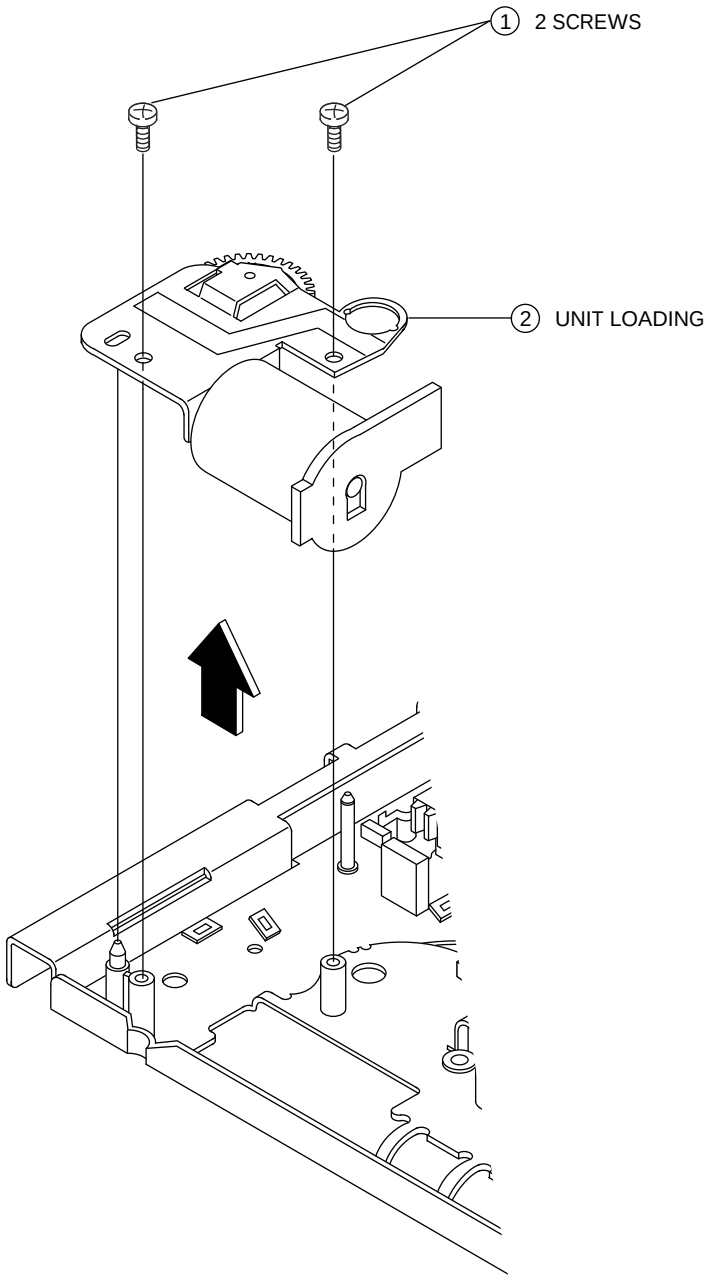


Fig. 1-44 Unit Loading Removal

1-4-25 Lever Slide Pinch Removal

1. Remove the Slit Washer ①.
2. Lift the Slide Lever Pinch ②.

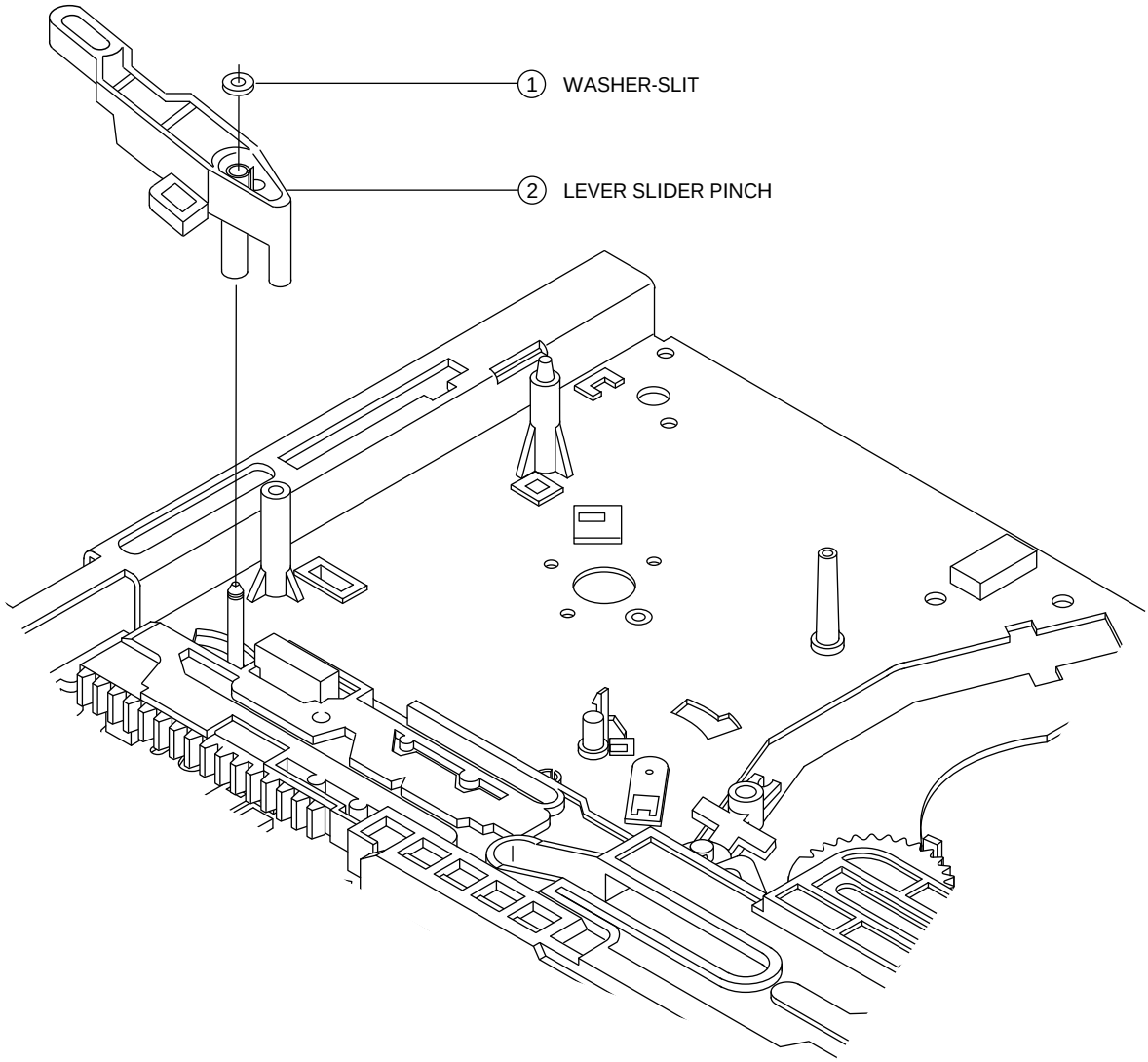


Fig. 1-45 Lever Slide Pinch Removal

1-4-26 Assembly of Lever Slide Pinch

1. Pull the Pinch Slide ① to the end in the direction of arrow.
2. Insert the Pinch Slide ① into the hole of Slide Lever Pinch ②. (Refer to detail "A")

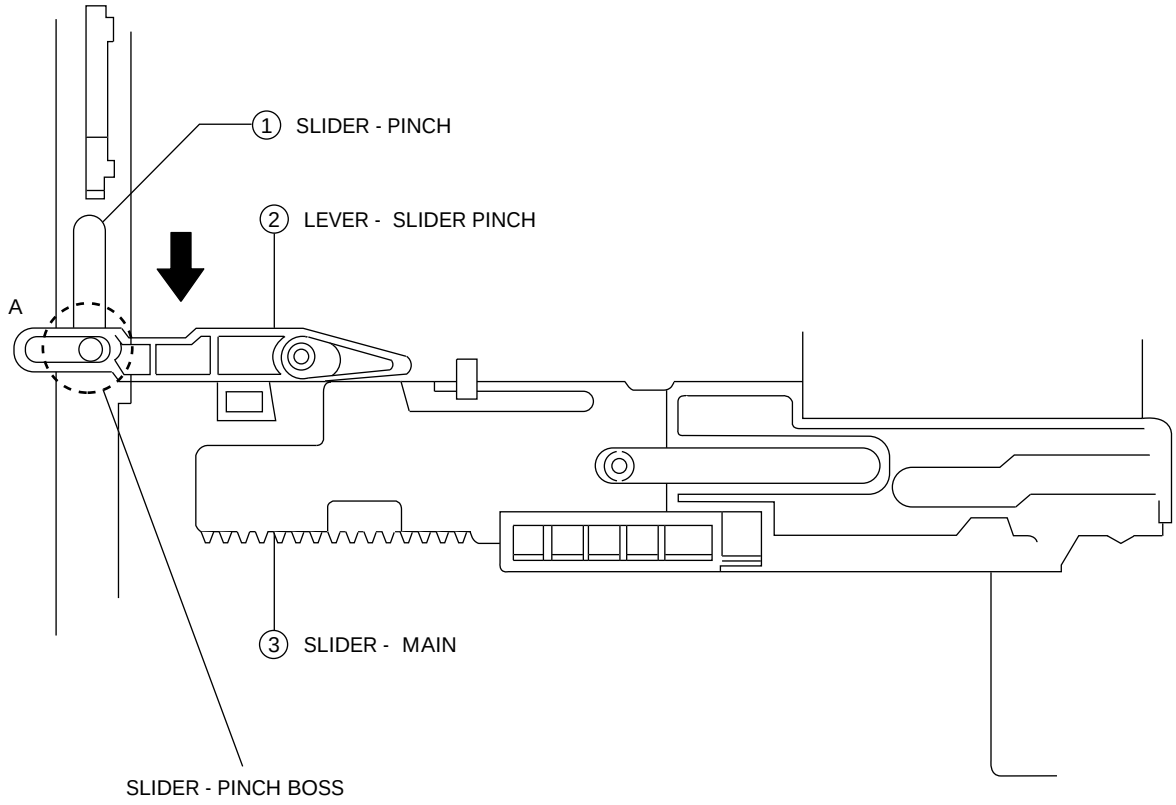


Fig. 1-46 Assembly of Lever Slide Pinch

1-4-27 Slide Main Removal

1. Remove the Slit Washer ①.
2. Release 3 tabs ②, ③, ④ in the direction of arrow.
3. Lift the Main Slide ⑤.

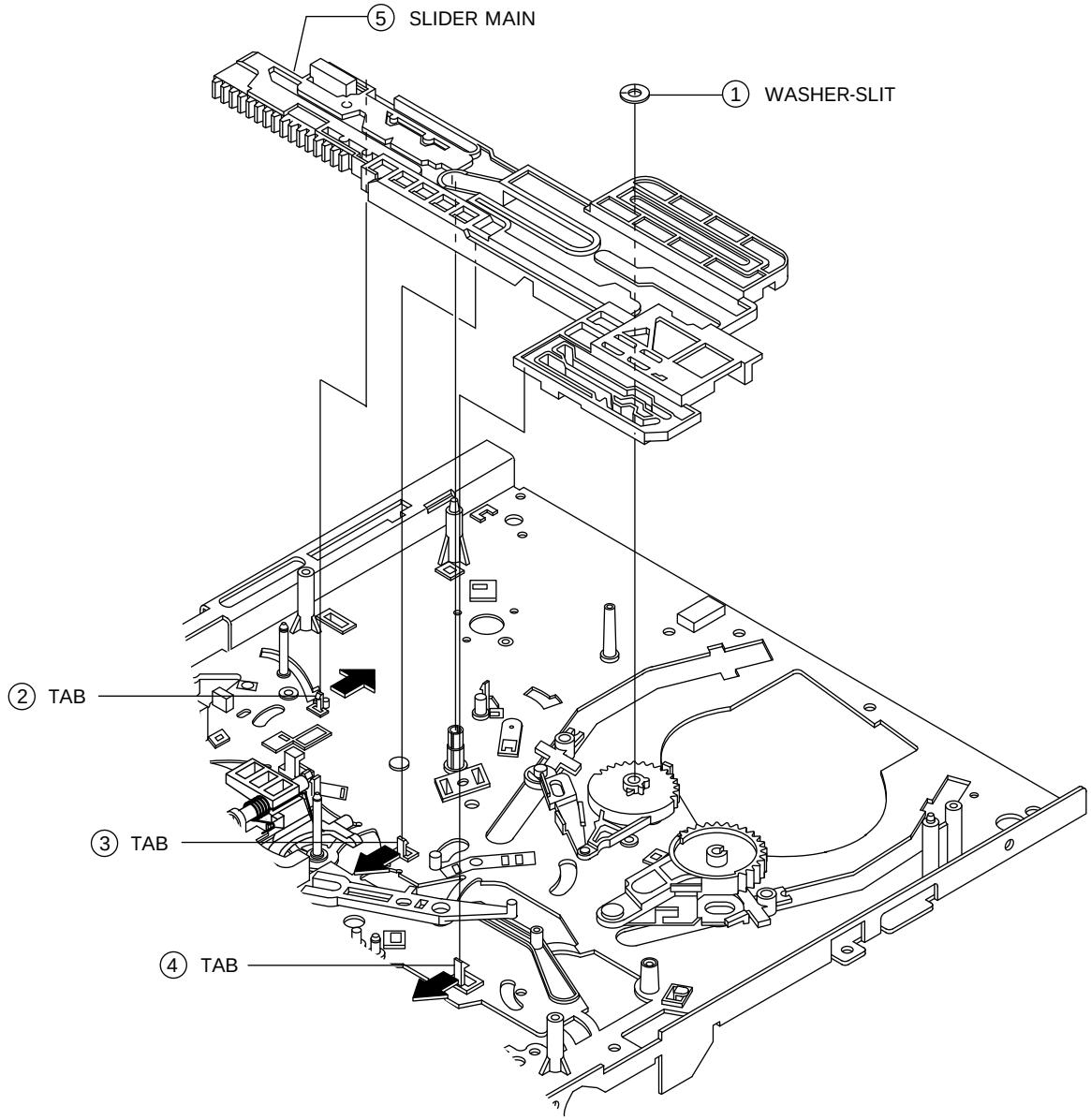


Fig. 1-47 Slide Main Removal

1-4-28 Assembly of Slide Main

1. Install the shaft of Loading "R" Gear Ass'y into the left of the Main Slide Hole and secure with the Slit Washer ②. (Refer to detail "A")
2. Insert the Tension Control Lever ③ and the Idler Change Lever ④ into the Main Slide Hole. (Refer to detail "B")
3. After confirming the above items 1, 2 install the Main Slide and secure with tabs (a, b, c).

Note : Be sure to assemble the Main Slide when the Loading L/R Gear Ass'y is in unloading position.

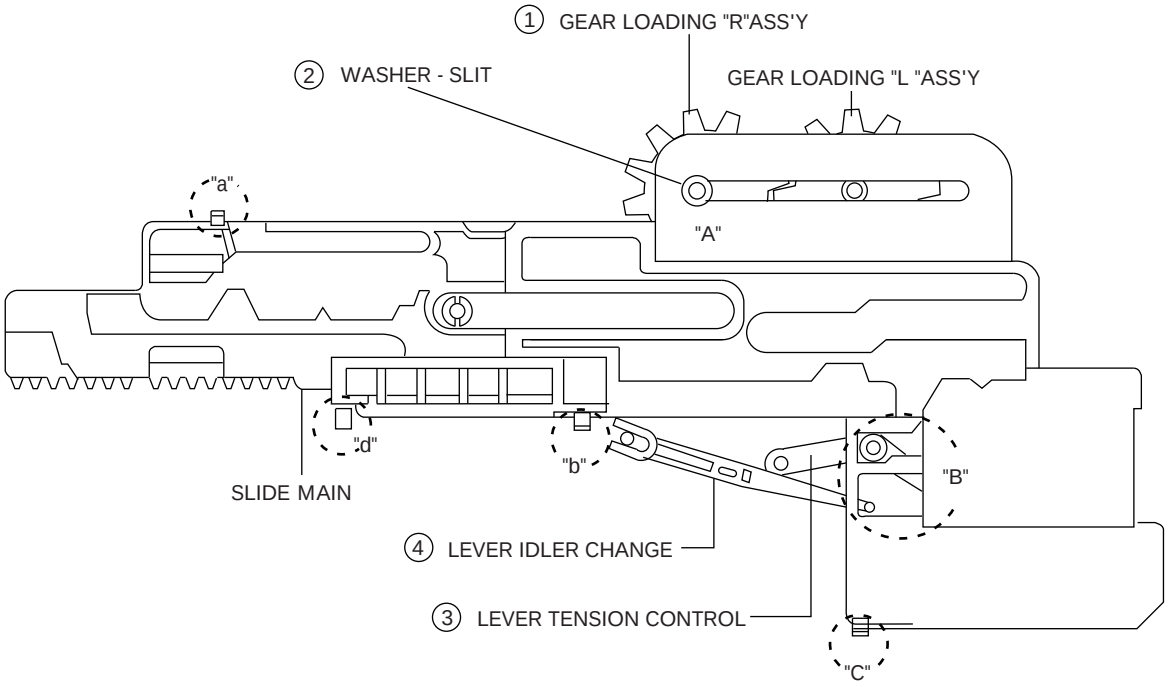


Fig. 1-48 Assembly of Slide Main

1-4-29 Lever Shift Ass'y Removal

1. Hang the Lever Shift Spring ① to the claw of the Shift Lever ③. (Refer to detail drawings A, B)
2. Release the tab ② in the direction of arrow.
3. Lift the Shift Lever ③.

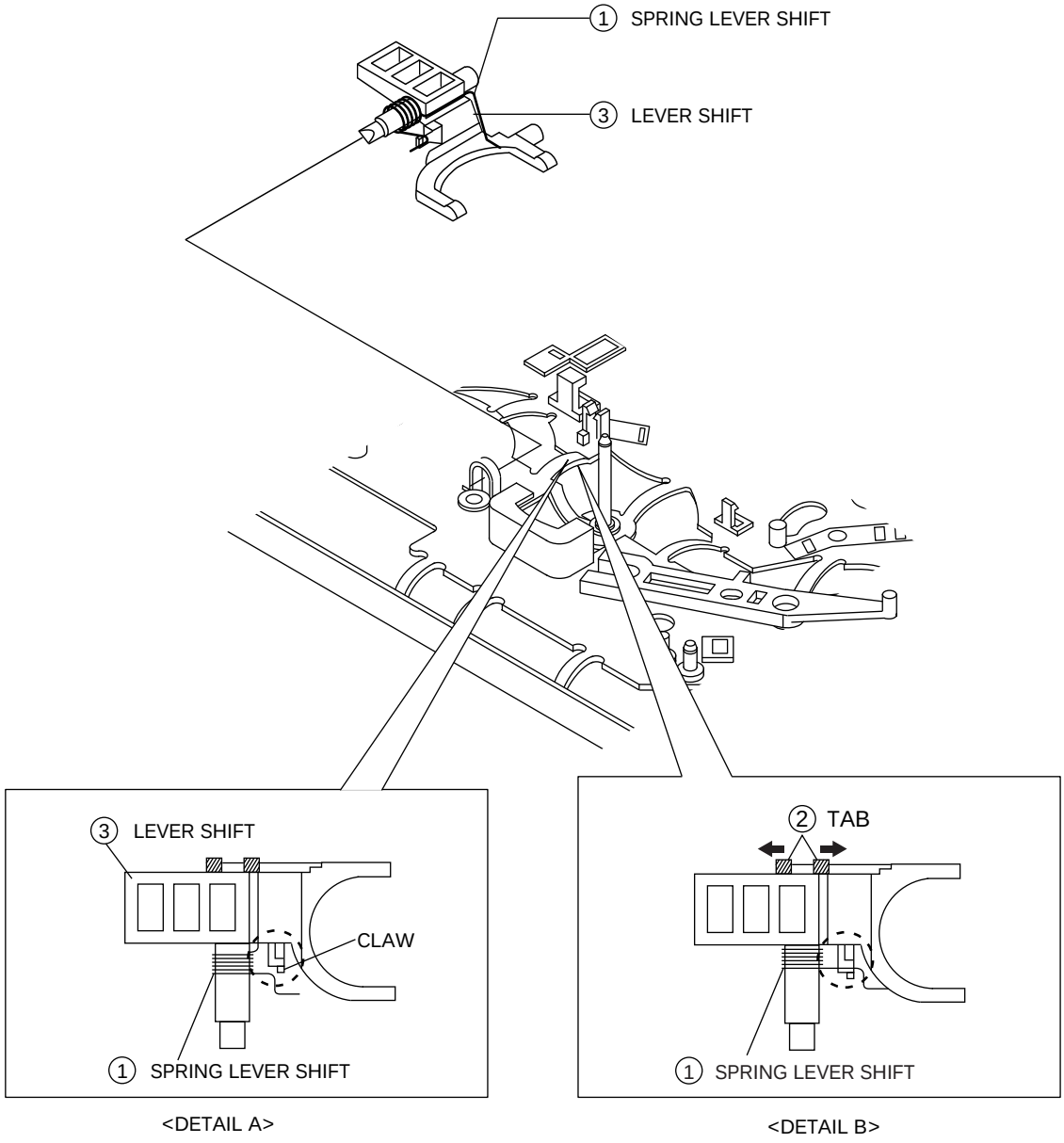


Fig. 1-49 Lever Shift Ass'y Removal

1-4-30 Lever Idler Change Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the lever Change Idler ②.

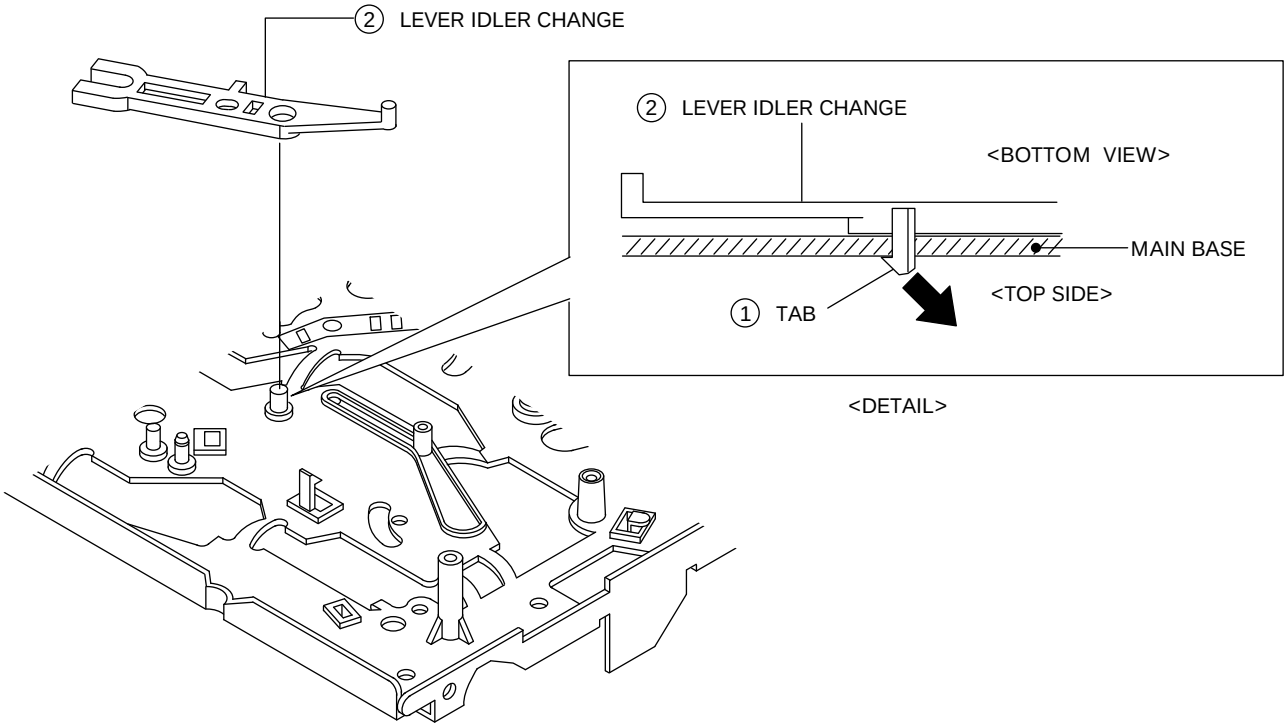


Fig. 1-50 Lever Idler Change Removal

1-4-31 Gear Loading “L”, “R” Ass’y Removal

1. Remove the Loading “R” Gear Ass’y ② from the Roller “T” Guide ③ by pushing the Loading “R” Spring ① in the direction of arrow. (Refer to detail drawing A)
2. Remove the Loading “L” Gear Ass’y ⑤ from the Roller “S” Guide ⑥ by pushing the Loading “L” Spring ④ in the direction of arrow. (Refer to detail drawing B)
3. Lift the Loading “R” Gear Ass’y ②.
4. Lift the Loading “L” Gear Ass’y ⑤ by pushing the tab ⑦ of the Loading “L” Gear Ass’y ⑤. (Refer to detail drawing C)

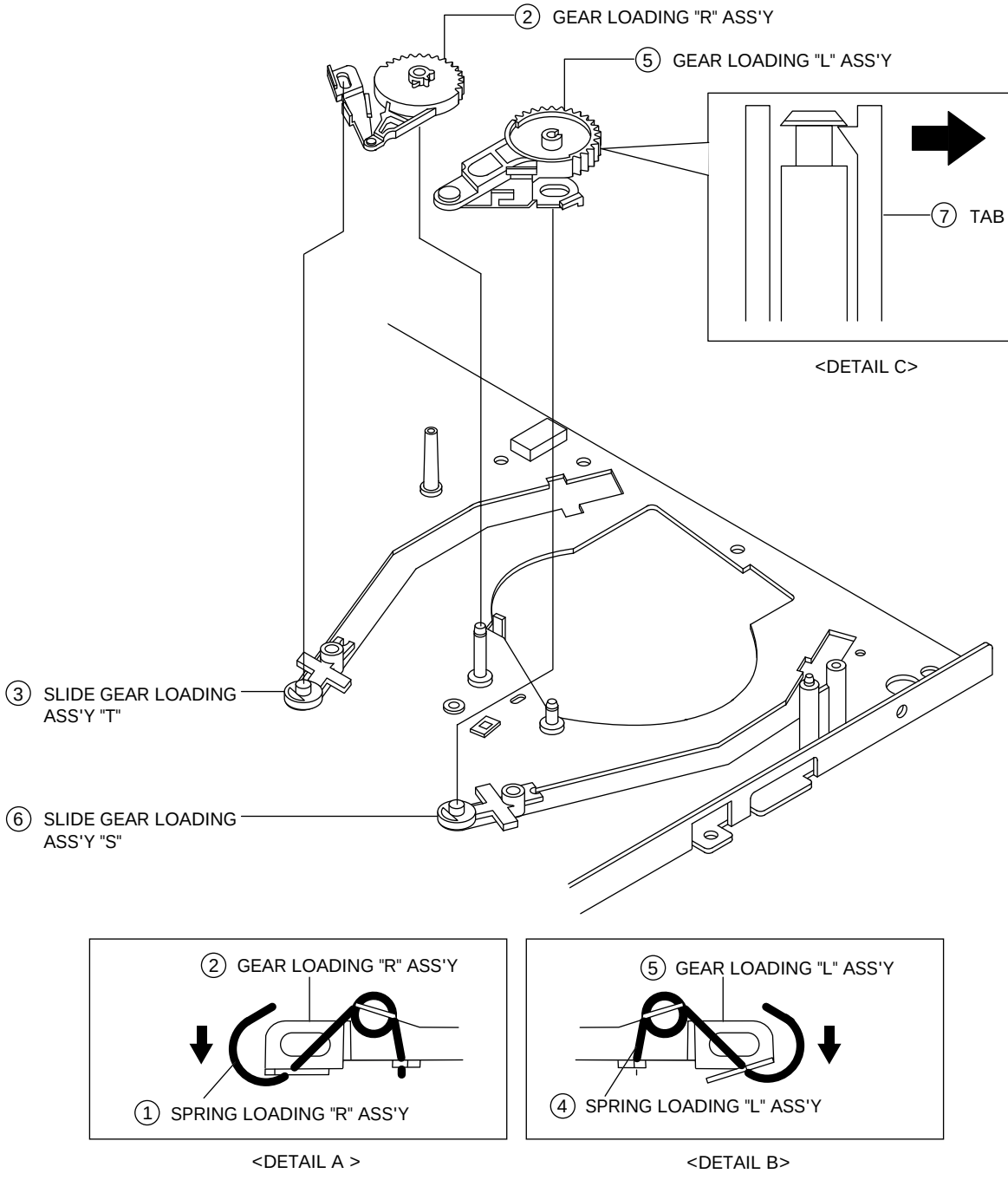


Fig. 1-51 Gear Loading “L”, “R” Ass’y Removal

1-4-32 Assembly of Gear Loading “L”, “R” Ass’y

1. When reinstalling, be sure to align 2 arrow as shown in Fig. 1-52. (Refer to timing point)

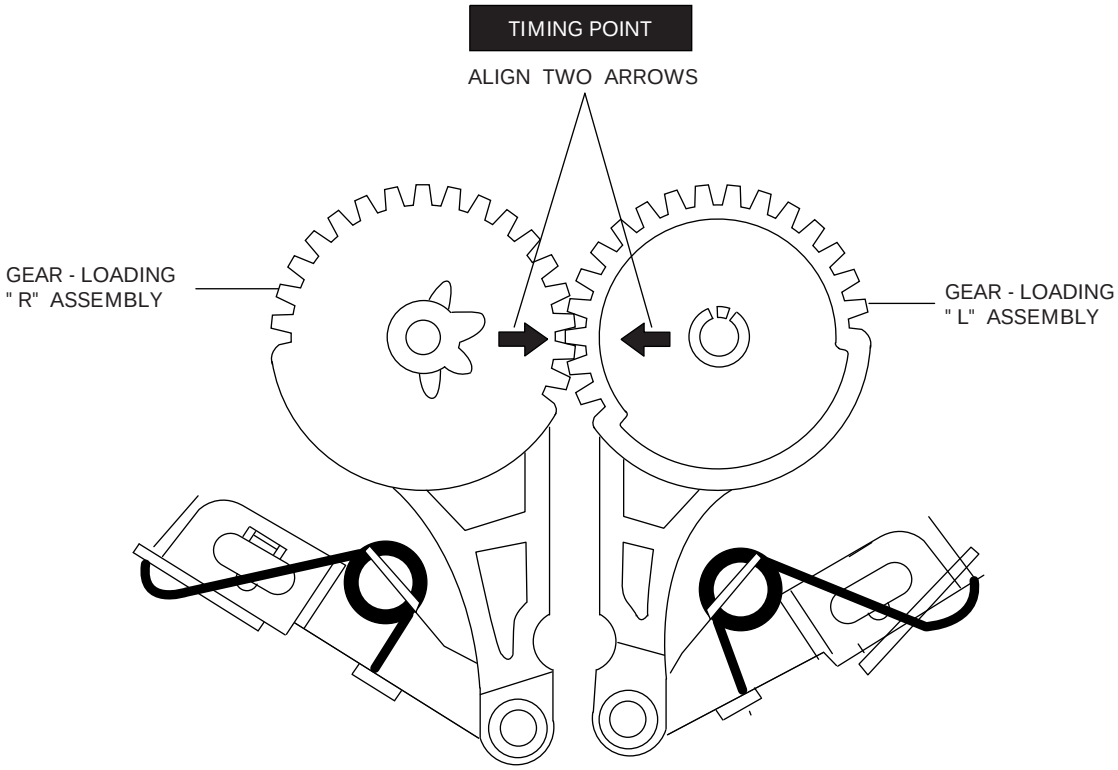


Fig. 1-52 Assembly of Gear Loading “L”, “R” Ass’y

1-4-33 Slide Pinch Removal

1. Push the tab ① in the direction of arrow “A”. (Refer to detail drawing)
2. Lift the Slide Pinch ② in the direction of arrow “B”.

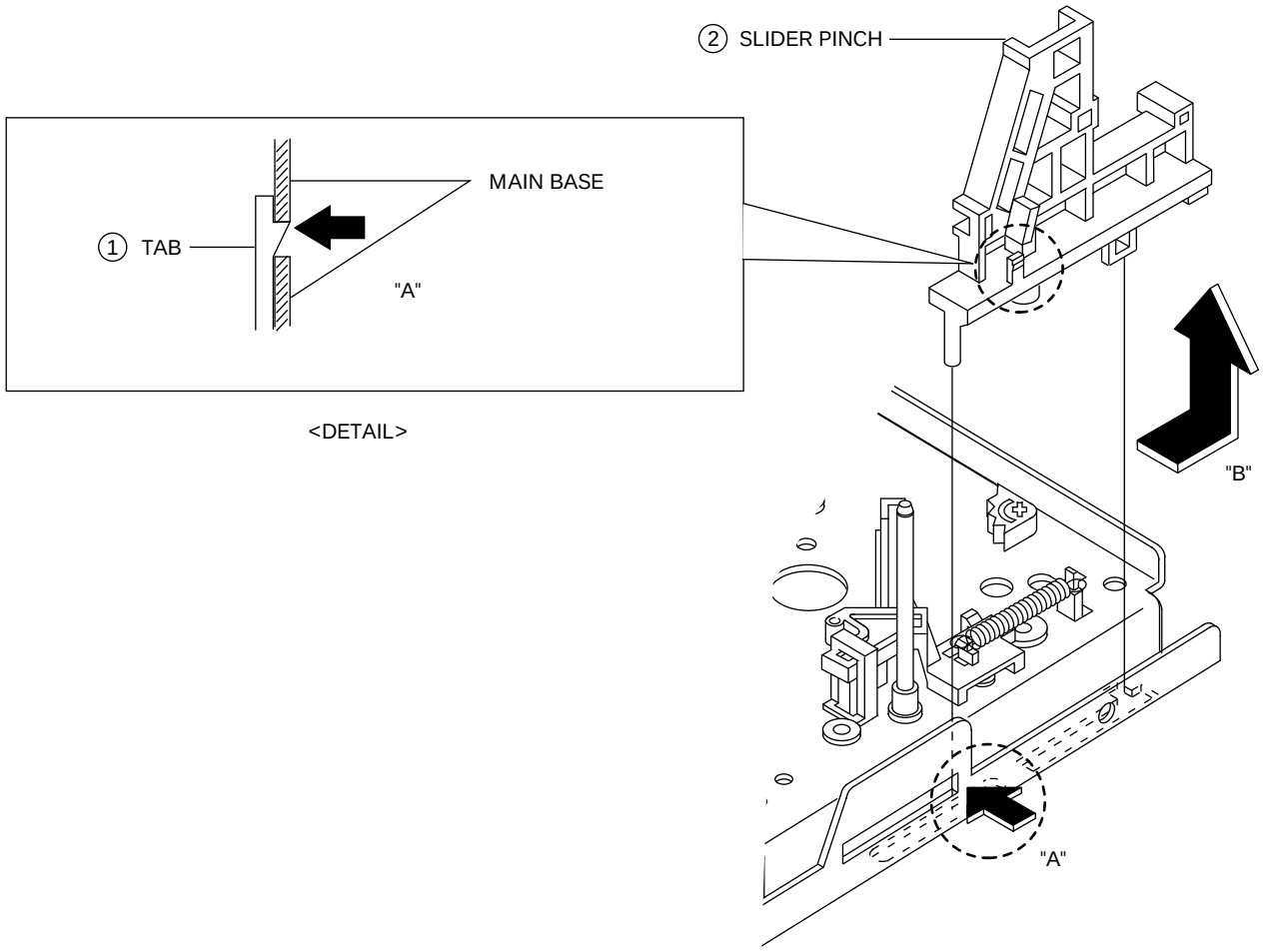
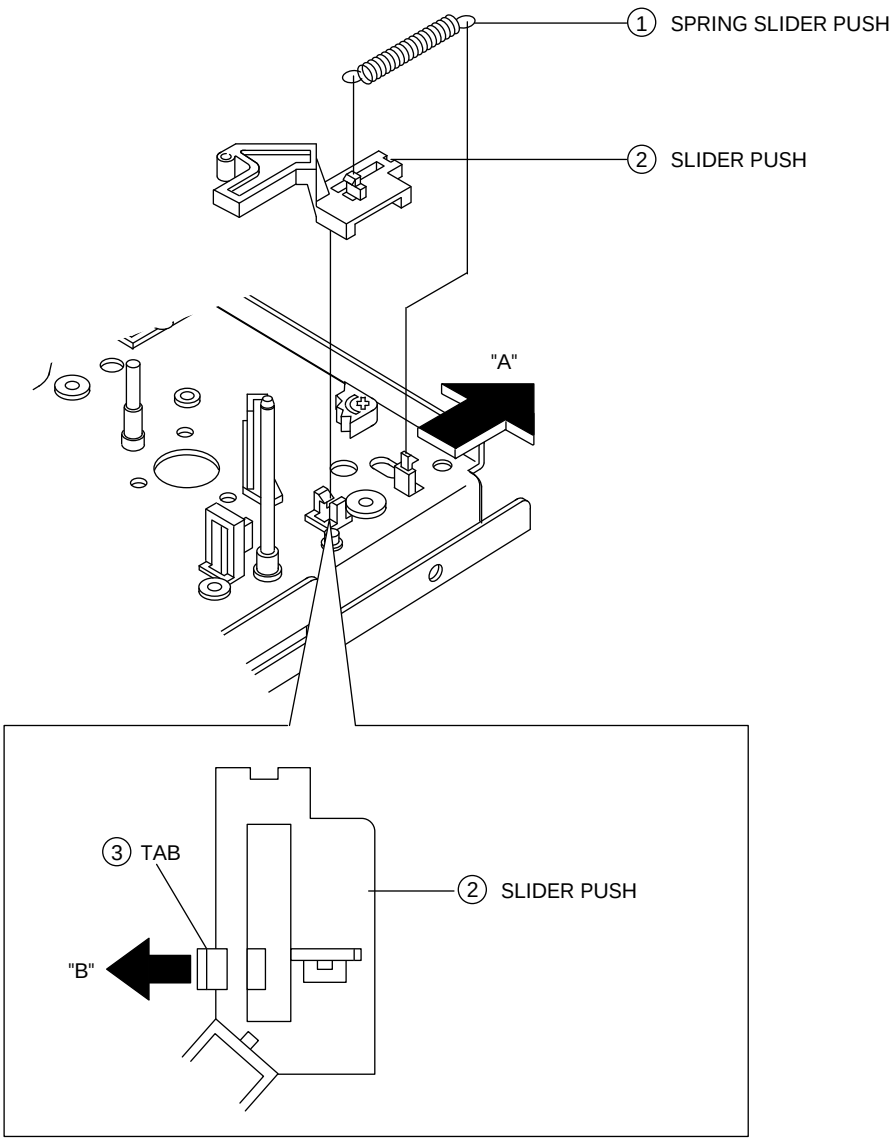


Fig. 1-53 Slide Pinch Removal

1-4-34 Slide Push Removal

1. Remove the Slide Push Spring ①.
2. Push the Slider ② in the direction of arrow “A”.
3. Lift the Push Slider ② by pushing the tab ③ in the direction of arrow “B”. (Refer to ditail drawing)

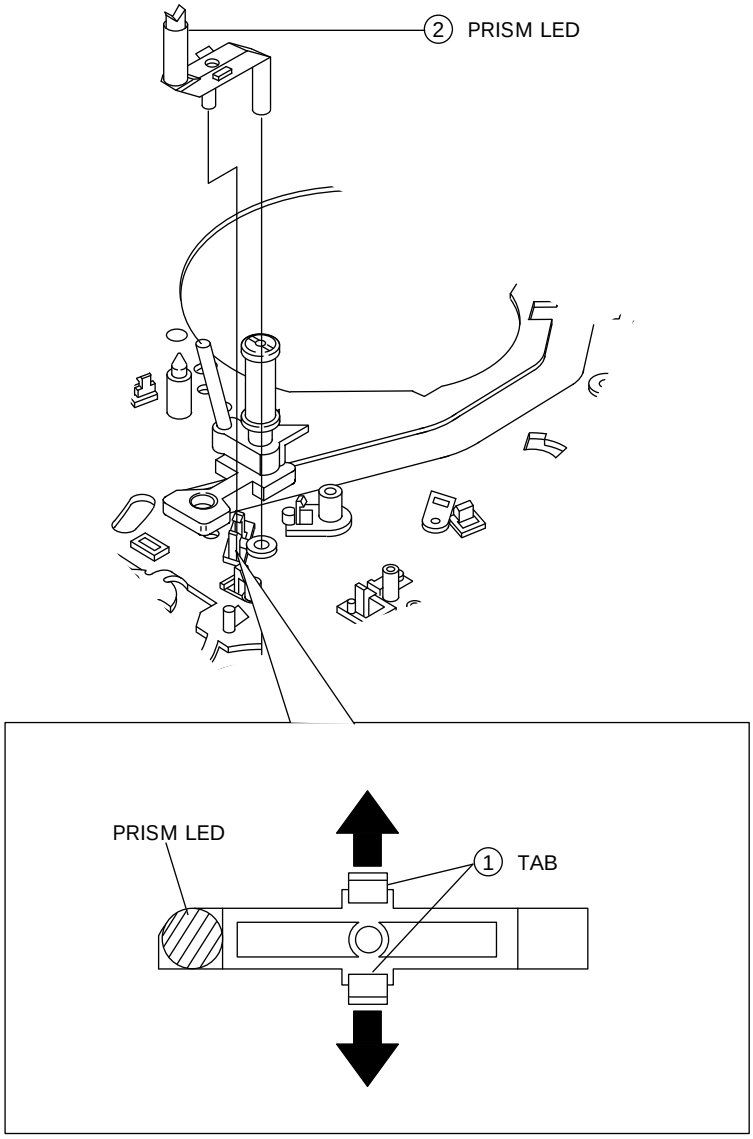


<DETAIL-TOP VIEW>

Fig. 1-54 Slide Push Removal

1-4-35 Prism LED Removal

1. Release the tab ① in the direction of arrow. (Refer to detail drawing)
2. Lift the LED Prism ②.



<DETAIL-TOP VIEW>

Fig. 1-55 Prism LED Removal

1-4-36 Lever Record Switch Removal

1. Remove the Record Switch Spring ①.
2. Release the tab ② in the direction of arrow. (Refer to detail drawing)
3. Lift the Record Switch Lever ③.

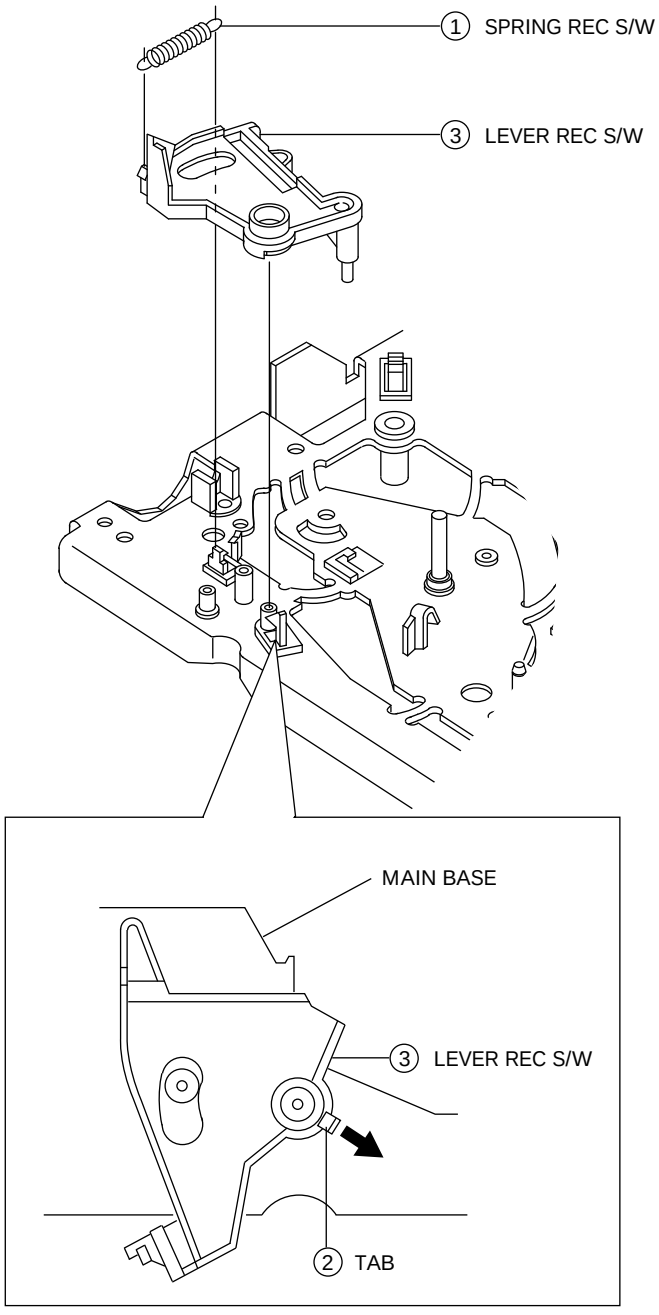


Fig. 1-56 Lever Record Switch Removal

1-4-37 Full Erase Head Removal

1. Remove 1 Screw ①.
2. Lift the F/E Magnet Head ②.

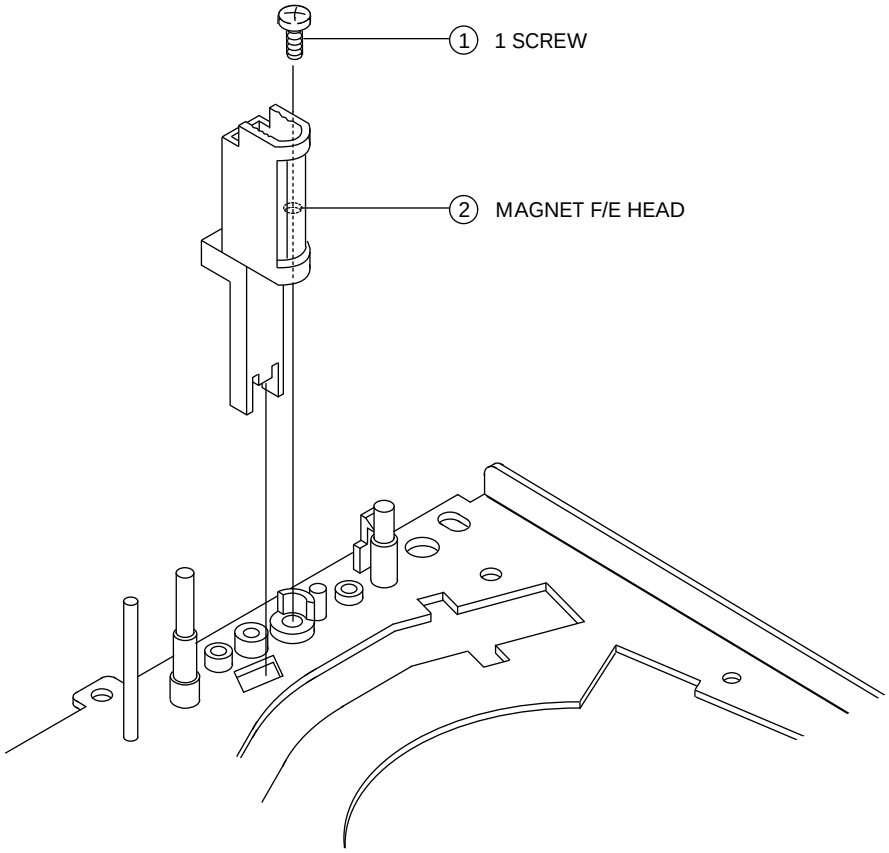


Fig. 1-57 Full Erase Head Removal

1-4-38 ACE Head Removal and Reassembly

1. Release the tab ① holding ACE Holder toward arrow. (Refer to detail drawing A)
2. Remove 1 Screw ②.
3. Lift the ACE Head Ass'y Magnet ③.

Assembly : When reinstalling, be sure to align the 3 teeth of X-Position adjustment gear with the 2 slot of ACE Head Base.

Note : When adjusting the X-Position adjustment gear using (+) driver, do not adjust by force.

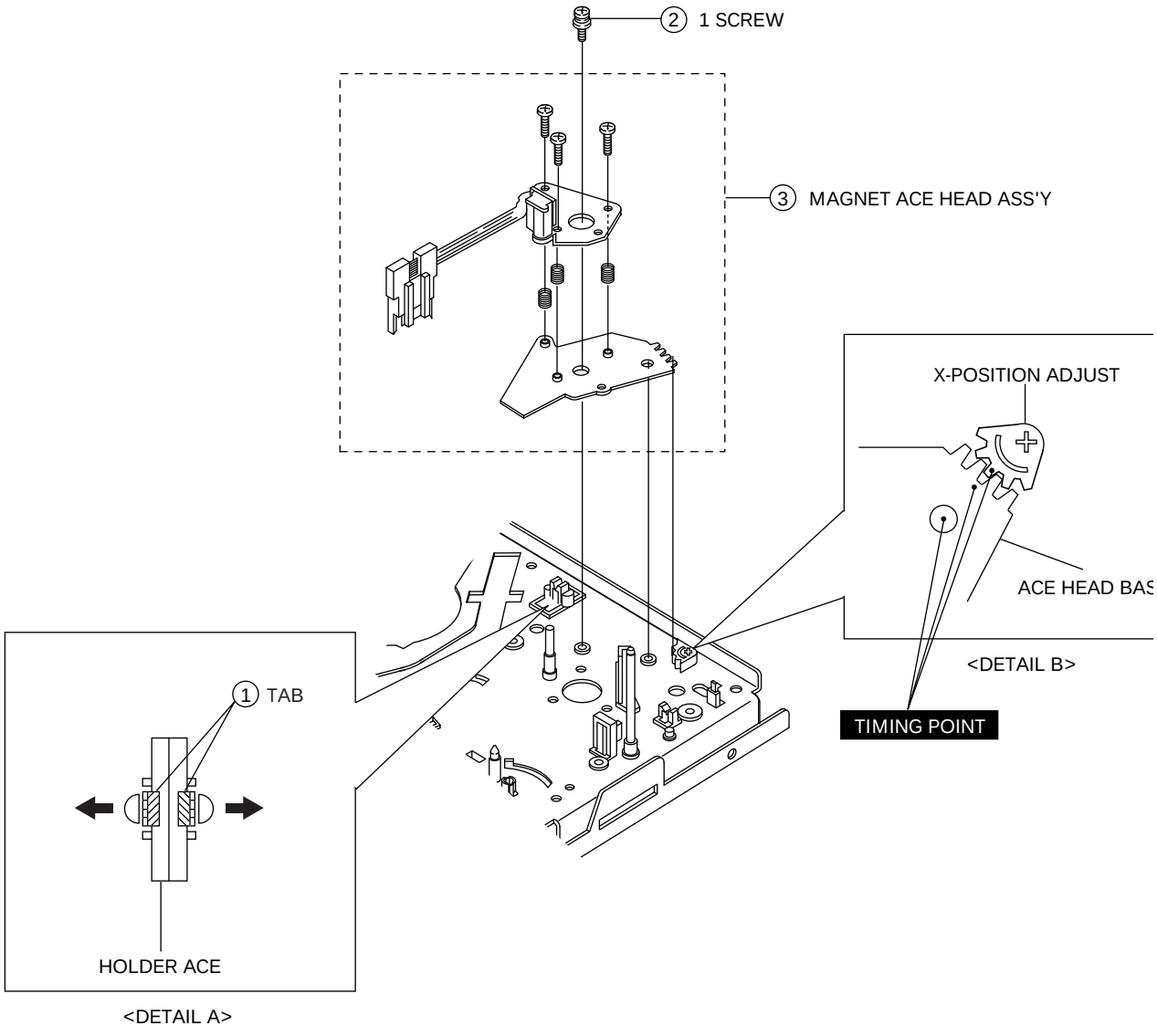


Fig. 1-58 ACE Head Ass'y Removal and Reassembly

1-4-39 Slide Guide Roller “S”, “T” Ass’y Removal

1. Remove the Cylinder Ass’y from the Main Base. (Refer to Fig. 1-12, 1-13, 1-14)
2. Remove the Slide “S”, “T” from the Loading “L”, “R” Gear Ass’y. (Refer to Fig. 1-52)
3. Move the Roller “S”, “T” Guide Ass’y to slot and then lift it to remove. (Refer to arrow)

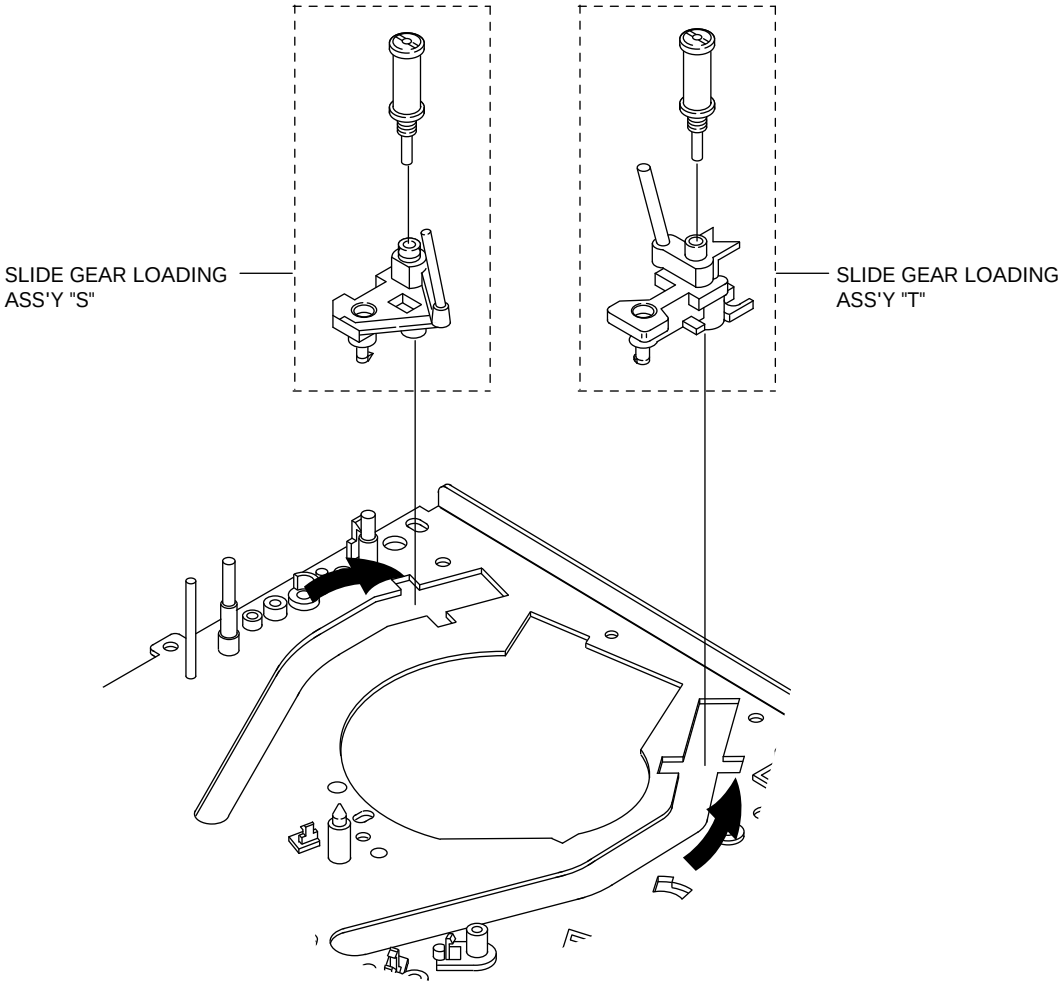


Fig. 1-59 Slide Guide Roller “S”, “T” Ass’y Removal

1-4-40 Assembly of Slide Guide Roller “S”, “T” Ass’y (When all parts except the Cylinder Ass’y are removed.)

1. Push 4 Lever Locks ① of the Housing Ass’y Simultaneously. (Refer to Fig. 1-60)
2. Push the Cassette Ass’y Holder ③ toward arrow “B” while turning the Master Gear ② toward arrow “A”. (Refer to Fig. 1-60)
3. Load the Loading L, R Gear Ass’y ④, ⑤ to the middle position of Guide Rail by turning the Master Gear ② toward arrow “A”. (Refer to Fig. 1-60, 1-61)
4. Install the Guide Roller S, T Slide ⑥, ⑦ into the Rail slot and then move it to the position of Loading Gear L, R Ass’y ④, ⑤. (Refer to Fig. 61)
5. Turn the Master Gear ② toward arrow “A”. (Eject mode)

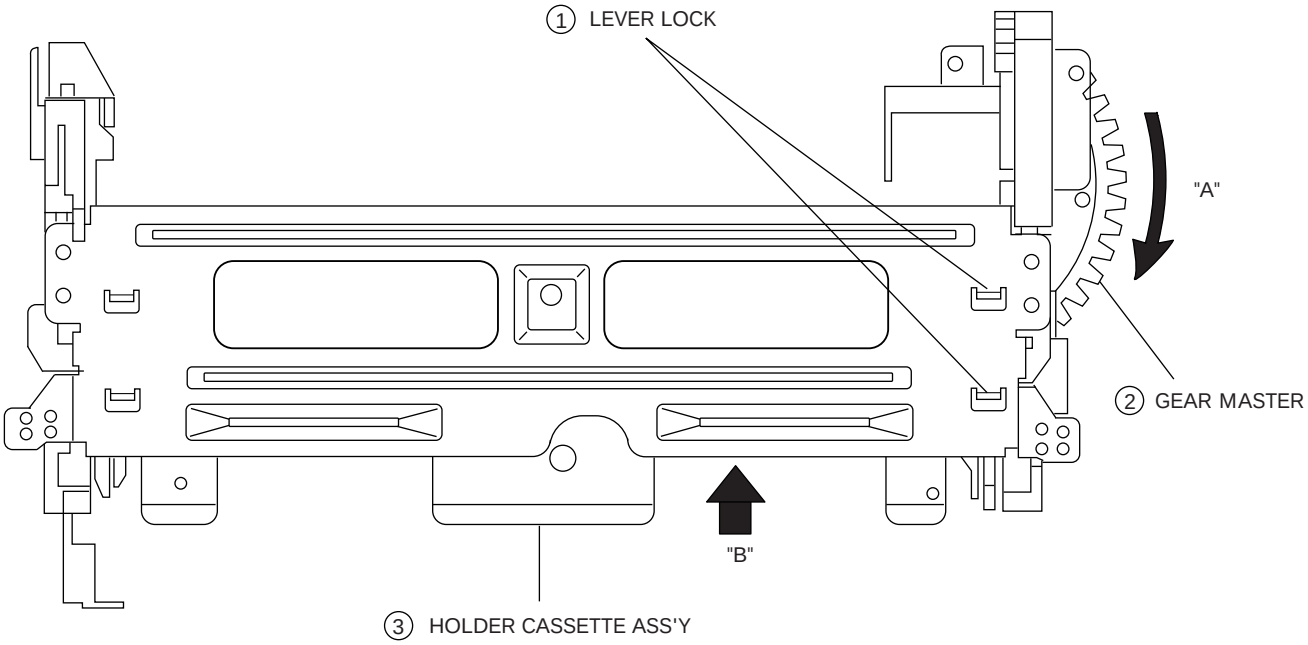


Fig.1-60 How to operate the Housing Ass’y

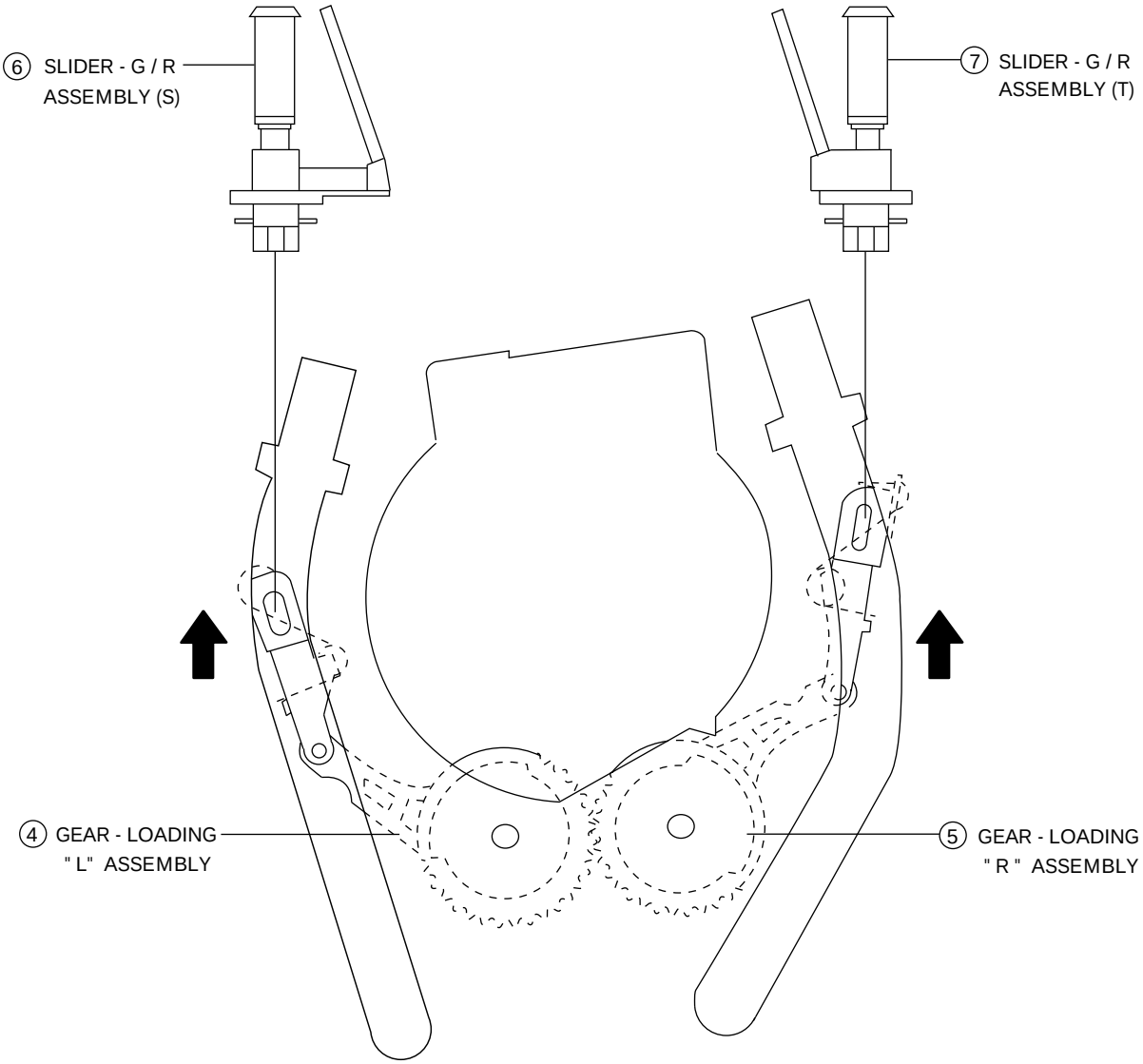


Fig. 1-61 Assembly of Slide Guide Roller “S”, “T” Ass’y

1-5 Cleaning and Lubrication

1-5-1 Cleaning Tape Mechanism

Periodic cleaning of the tape mechanism is necessary. To clean the following parts, use patch and solvent :

1. Capstan Shaft
2. All tape guide posts
3, Clutch Pulley
4. Pinch roller
5. Belt Capstan
6. Capstan Motor Pulley

1-5-2 Cleaning of Rotating and Stationary Heads

To clean video heads, full erase head, and the audio/control (A/C) head we recommend using a head cleaning kit and solvent.

Note : When cleaning video heads, move the cleaning stick in the direction of head rotation (wiping in a vertical direction may damage the heads.)

Press a chamois cloth which has been dipped in cleaning fluid lightly against the rotating Cylinder Ass'y. Clean slowly by rotating the Upper Cylinder Ass'y by hand.

Note : Never turn the Motor on when cleaning.

1-5-3 Lubrication of Tape Mechanism

The tape transport mechanism is properly lubricated at the factory. In normal use cycles, and with average environmental conditions, additional lubrication should not be required during the first year of operation.

Depending on the frequency of use and environmental conditions, periodic lubrication may be required. When lubricating, first remove the old lubricant, then sparingly apply new lubricant. Excessive lubricant is transferred to other assemblies, malfunction will result.

Use grease on the following parts every 1,000 hours. (See exploded view for location) :

1. Between base pole assembly (L, R) and main base
2. Gear Loading L, R
3. Slide Main
4. Lever Shift
5. Gear Master
6. Lever Slide Pinch
7. Pinch Roller
8. Slide Pinch
9. Base Cylinder

Oil may be required for the following parts after 1,000 hours. (See exploded view for location) :

Main Base
1. Arm Tension molding
2. Shaft Reel Disk L, R
3. Shaft Gear Relay S, T
4. Shaft Idler
5. Shaft Clutch

Other parts which are not listed above do not require lubrication, except when parts are replaced.
Use appropriate oil or grease as indicated on the exploded view.

THE ASSEMBLY PROCEDURES OF DECK PARTS

NO	DESCRIPTION	SUBPARTS	LOCATE	REMARK
1	BASE MAIN ASS'Y	GREASE	TOP VIEW	
2	MOTOR D.D CAPSTAN	3 SCREWS	TOP VIEW	
3	LEVER JOG ASS'Y	1 SCREW	TOP VIEW	DX8-A/DX8-AC
4	GEAR RELAY "S" ASS'Y	1 WASHER SLIT	TOP VIEW	
5	GEAR RELAY "T" ASS'Y	1 WASHER SLIT	TOP VIEW	
6	IDLER ASS'Y	1 WASHER SLIT	TOP VIEW	
7	REEL DISK "L" ASS'Y	1 WASHER PLAIN	TOP VIEW	
8	REEL DISK "R" ASS'Y	1 WASHER PLAIN	TOP VIEW	
9	ARM TENSION FULL ASS'Y		TOP VIEW	
10	SLIDE G/R ASS'Y (S)		TOP VIEW	
11	SLIDE G/R ASS'Y (T)		TOP VIEW	
12	SLIDE PUSH		TOP VIEW	
13	SLIDER PINCH	GREASE	TOP VIEW	
14	GEAR LOADING "L" ASS'Y		BOTTOM VIEW	
15	GEAR LOADING "R" ASS'Y		BOTTOM VIEW	
16	LEVER IDLER CHANGE		BOTTOM VIEW	
17	LEVER SHIFT ASS'Y	SPRING GUIDE	BOTTOM VIEW	
18	SLIDER MAIN	1 WASHER SLIT	BOTTOM VIEW	
19	LEVER SLIDER PINCH	1 WASHER SLIT	BOTTOM VIEW	
20	CLUTCH ASS'Y	1 WASHER SLIT, PLAIN	BOTTOM VIEW	
21	BRAKE CAPSTAN ASS'Y		BOTTOM VIEW	
22	SPRING BRAKE CAPSTAN		BOTTOM VIEW	
23	UNIT LOADING	2 SCREWS	BOTTOM VIEW	
24	GEAR MASTER	1 WASHER SLIT	BOTTOM VIEW	
25	BELT CAPSTAN		BOTTOM VIEW	
26	LEVER REVIEW		TOP VIEW	
27	ARM REVIEW ASS'Y		TOP VIEW	
28	LEVER PINCH CAM		TOP VIEW	
29	LEVER PINCH COMP ASS'Y		TOP VIEW	
30	SPRING ARM PINCH		TOP VIEW	
31	UNIT PINCH ROLLER	1 WASHER SLIT	TOP VIEW	
32	BRAKE MAIN "L" ASS'Y		TOP VIEW	
33	BRAKE MAIN "R" ASS'Y		TOP VIEW	
34	SPRING BRAKE MAIN		TOP VIEW	
35	BRAKE SUB "L" ASS'Y		TOP VIEW	
36	BRAKE SUB "R" ASS'Y		TOP VIEW	
37	SPRING BRAKE SUB "L"		TOP VIEW	
38	SPRING BRAKE SUB "R"		TOP VIEW	

NO	DESCRIPTION	SUBPARTS	LOCATE	REMARK
39	PRISM LED		TOP VIEW	
40	SLIDER RACK HOUSING		TOP VIEW	
41	LEVER REC S/W		TOP VIEW	
42	SPRING REC S/W		TOP VIEW	
43	SPRING TENSION		TOP VIEW	
44	SPRING SLIDE PUSH		TOP VIEW	
45	MAGNET ACE HEAD ASS'Y	1 SCREW	TOP VIEW	
46	HOUSING ASS'Y	3 SCREWS	TOP VIEW	
47	CYLINDER ASS'Y	3 SCREWS	TOP VIEW	
48	MAGNET F/E HEAD	1 SCREW	TOP VIEW	
49	STOPPER TAPE		TOP VIEW	DX7-A/DX8-A
	HEAD CLEANER ASS'Y		TOP VIEW	DX7-AC/DX8-AC

Note: Stopper tape has deleted from JAN.1998

MEMO

2. Alignment and Adjustment

2-1 Tape Transport System and Adjustment Locations

The tape transport system has been adjusted precisely in the factory. Alignment is not necessary except for the following :
1. Noise observed on the screen.
2. Tape damage.
3. Parts replacement in the tape transport system.

Lower flange height of tape guide is used as the reference for the transport adjustment.
To maintain the height of the tape guide and prevent damage, do not apply excessive force onto the main base.

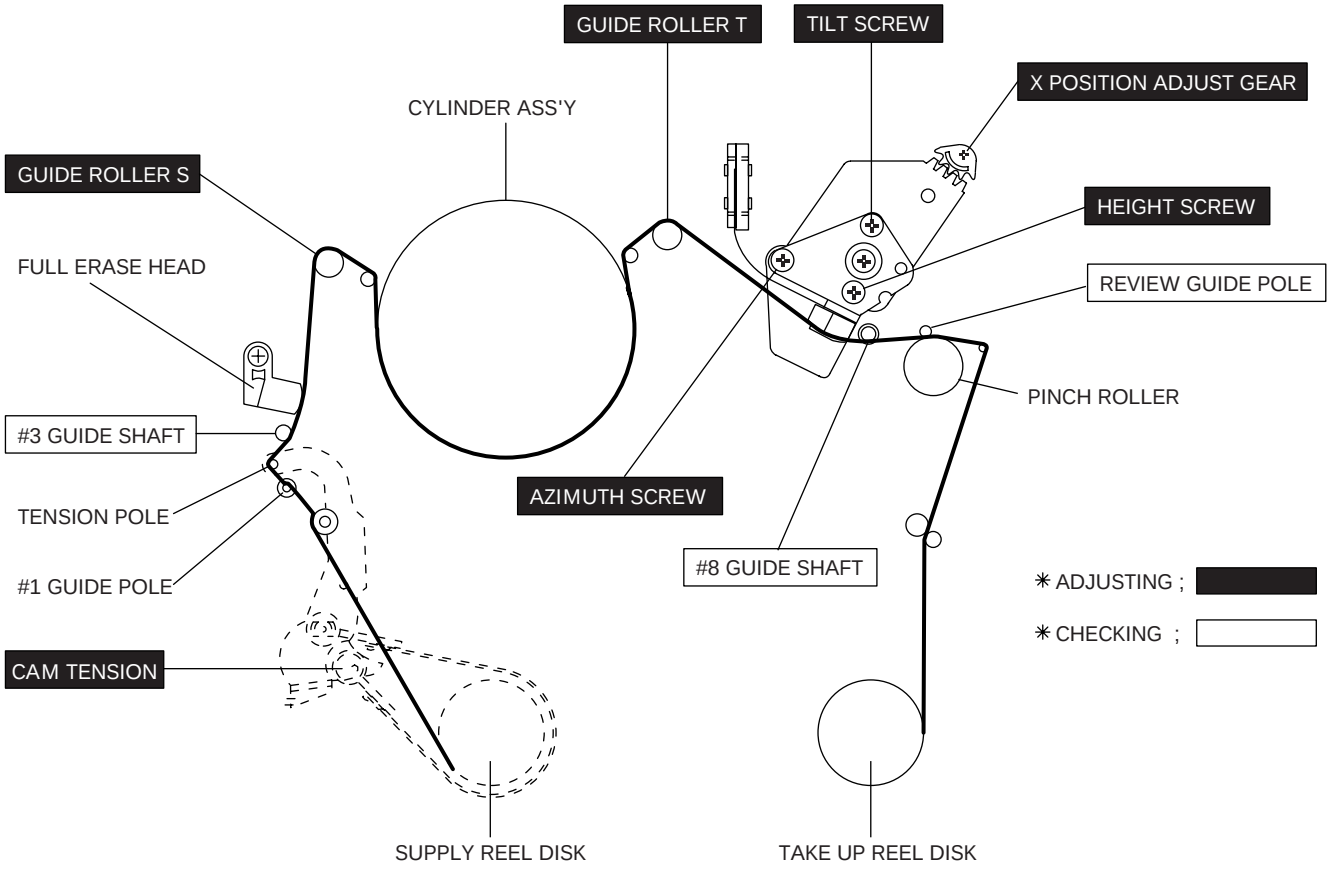


Fig. 2-1 Location of Tape Transport Adjustment

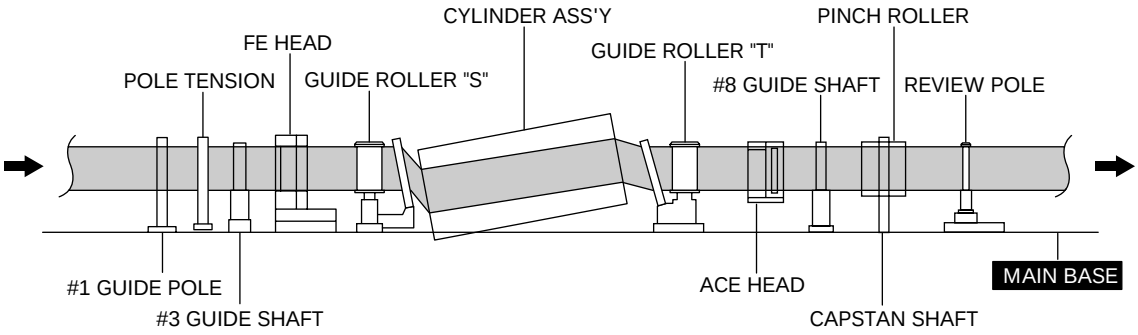


Fig. 2-2 Tape Travel Diagram

2-2 Tape Transport System Adjustment

When parts are replaced, perform the required adjustments by referring to precedures for the tape transport system. If there are any changes to the tape path, first run a T-120 (E-180) tape and make sure excessive tape wrinkle does not occur at the tape guides.

1. If tape wrinkle is observed at the S, T-guide rollers, turn the S, T-guide rollers until wrinkle disappears.
2. If the tape wrinkle is still observed at the tape guide, perform the tilt adjustment of the A/C head.
   (See page 5-1 of the Service Manual for Test Point Locations.)

2-2-1 A/C Head Assembly Adjustment

2-2-1 (a) A/C HEAD HEIGHT ADJUSTMENT

1) Run the alignment tape (Color bar) in the playback mode.
2) Observe surface of the audio head using a dental mirror.
3) Turn screw (A), (B), (C) clockwise or counterclockwise until the gap of lower tape edge and the lower edge of the control head is about 0.25mm. (Refer to Fig. 2-3 and 2-4)

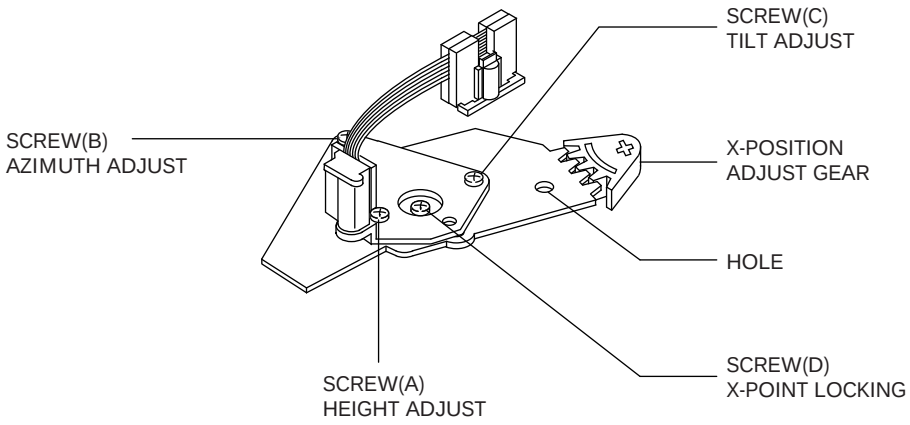


Fig. 2-3 Location of A/C Head Adjustment Screw

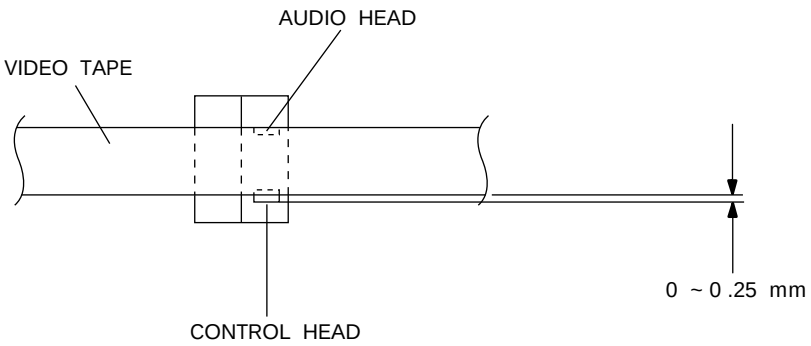


Fig. 2-4 A/C Head Height Adjustment

2-2-1 (b) A/C HEAD TILT ADJUSTMENT

1. Playback a T160 (E-240) tape and observe the position of the tape at the lower flange of tape guide.
2. Confirm that there is no curl or wrinkle at the lower flange of tape guide as shown in Fig.2- 5 (B)
3. If a curl or wrinkle of the tape occurrs, slightly turn the screw (C) tilt adjust on the A/C Head ass'y.
4. Reconfirm the A/C head height.

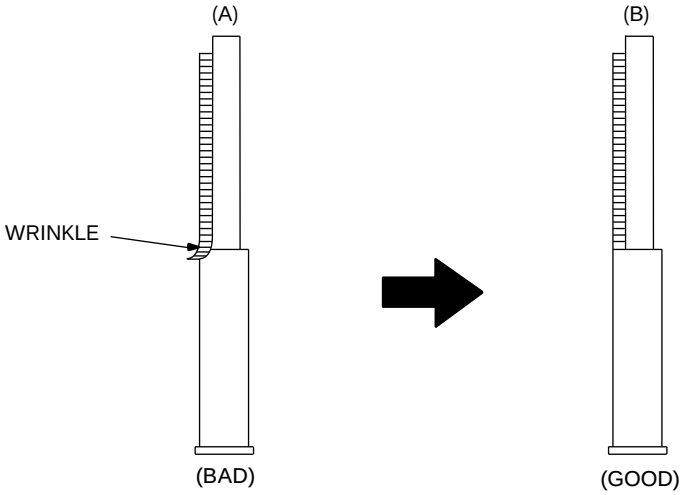


Fig. 2-5 Tape Guide Check

2-2-1 (c) AUDIO AZIMUTH ADJUSTMENT

1. Load alignment tape (Mono scope) and playback the NTSC : 7KHz (PAL : 6KHz) signal.
2. Connect channel-1 scope probe to audio output test point.
3. Adjust screw (B) to achieve maximum audio level. (See Fig. 2-3)

2-2-1 (d) A/C HEAD POSITION (X-POINT) ADJUSTMENT

1. See page 5-2 of the Service Manual for A/C Head position (X-Point) adjustment.

2-2-2 Linearity adjustment (S, T-guide rollers adjustment)

1. Playback the Mono Scope alignment tape (SP mode).
2. Observe the video envelope signal on an oscilloscope (triggered by the video switching pulse).
3. Make sure the video envelope waveform (at its minimum) meets the specification shown in Fig. 2-6.
   If it does not, adjust as follows :

Note : a=Maximum output of the video RF envelope.
b=Minimum output of the video RF envelope at the entrance side.
c=Minimum output of the video RF envelope at the center point.
d=Maximum output of the video RF envelope at the exit side.

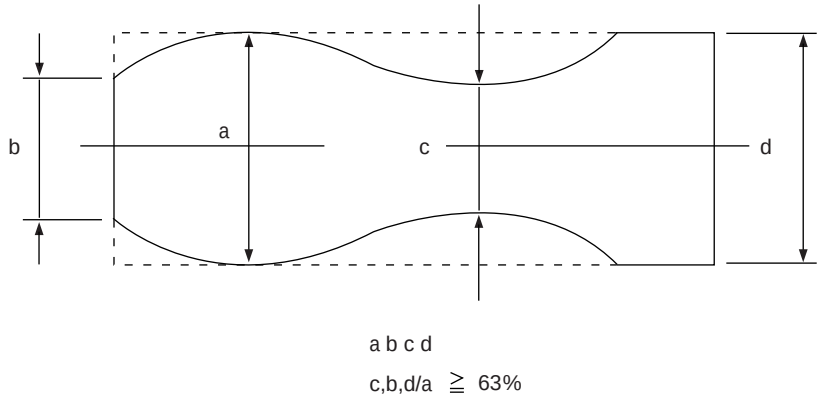


Fig. 2-6 Envelope Waveform Adjustment

4. If the section A in Fig. 2-7 does not meet the specification, adjust the S-guide roller up or down.
5. If the section B in Fig. 2-7 does not meet the specification, adjust T-guide roller up or down.

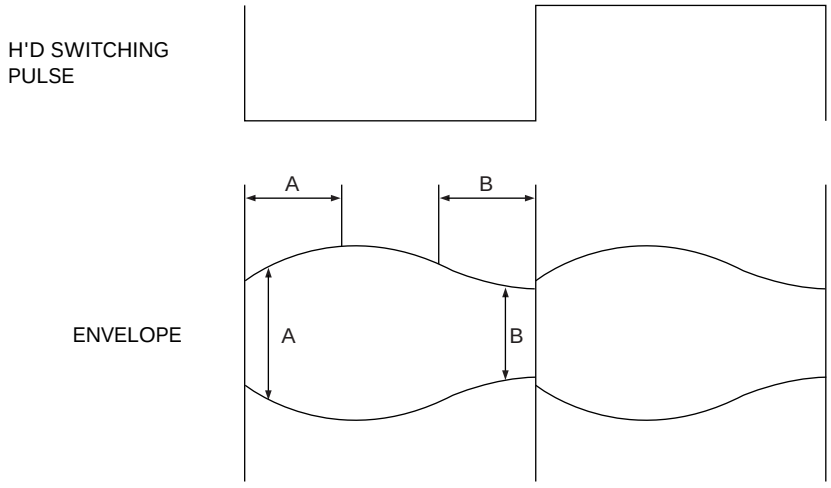


Fig. 2-7 Adjustment Points

6. Play back the Mono Scope alignment tape (SP mode).
7. Connect an oscilloscope CH-1 to the Envelope and CH-2 to the H'D SW Pulse for triggering.
8. Turn the guide roller heads with a flat head (▬) driver to obtain a flat video RF envelope as shown in Fig. 2-8.
9. After the adjustment is completed, tighten the set screws.

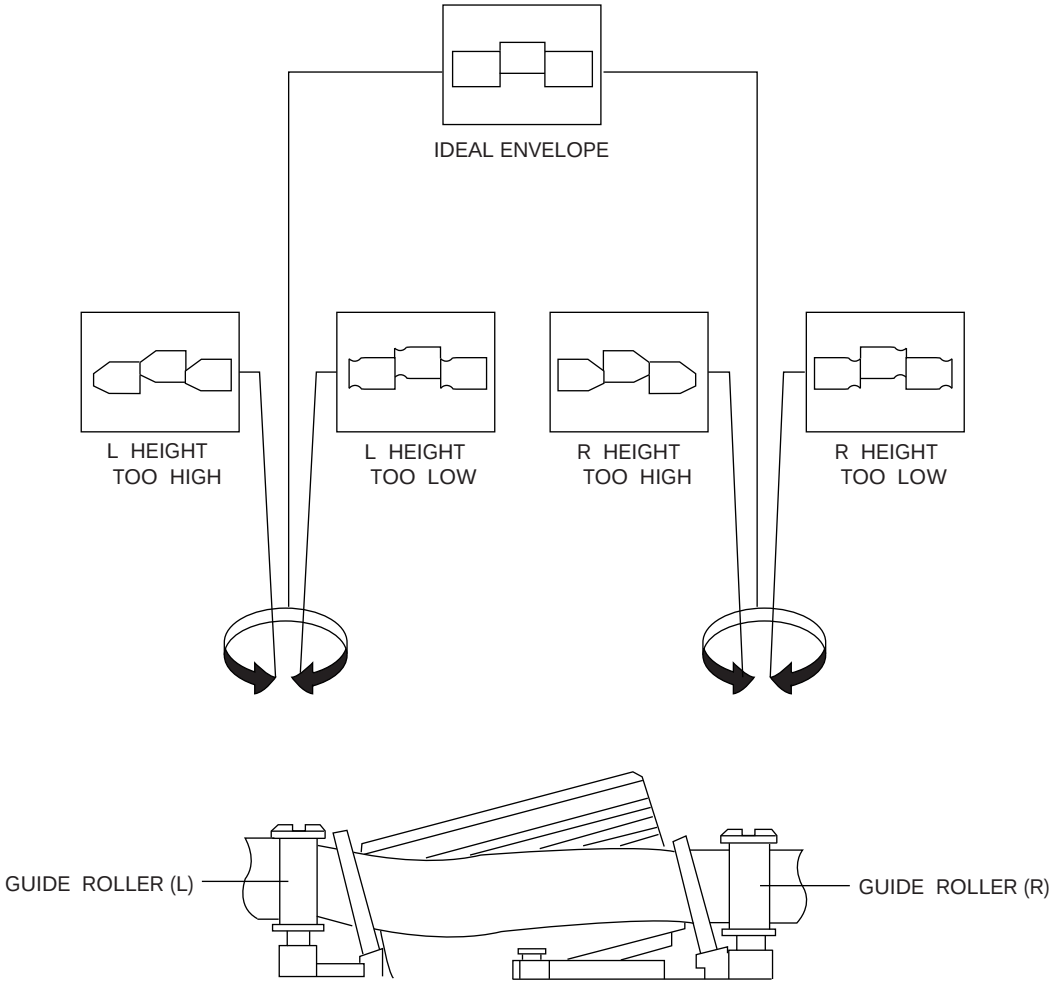


Fig. 2-8 S, T-Guide Roller Height Adjustment

2-2-3 Check Transitional Operation from RPS to Play

Check transition from RPS mode to play mode : Using a pre-recorded SP tape, make sure the entry side of envelope comes to an appropriate steady state within 3 seconds (as shown in Fig. 2-9). If the envelope waveform does not reach specified peak-to peak amplitude within 3 seconds, adjust as follows :

1. Make sure there is no gap between the supply roller lower flange and the tape.
   If there is a gap, adjust the supply guide roller again.
2. Change operation mode from the RPS to the play mode (again) and make sure the entry side of envelope rises within 3 second.

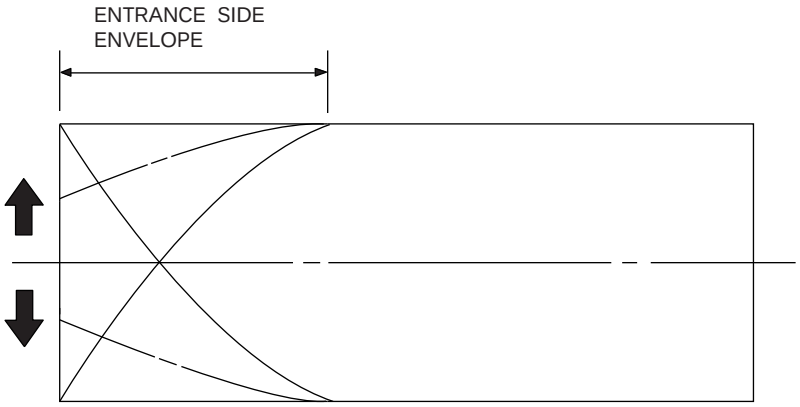


Fig. 2-9 Video Envelope Rising when Operation mode Changes from RPS to Play Mode

2-2-4 Envelope Check

1. Make recordings on T-120 (E-120) and T-160 (E-180) tape. Make sure the playback output envelope meets the specification as shown in Fig. 2-10.
2. Play back a self recorded tape (recording made on the unit using with T-120, E-120). The video envelope should meet the specification as shown in Fig. 2-10. In SP mode, (A) should equal (B).
   If the head gap is wide, upper cylinder should be checked.

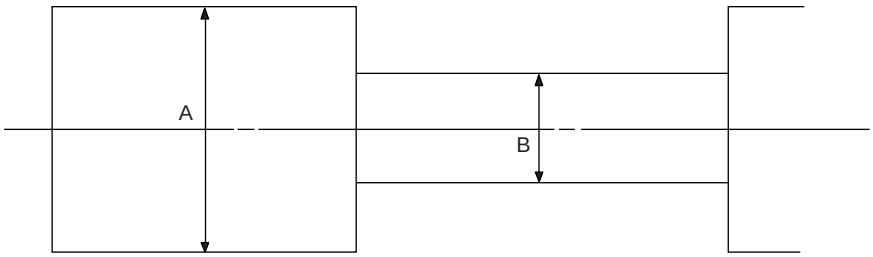


Fig. 2-10 Envelope Output and Output Level

2-2-5 Tape Wrinkle Check

1. Run the T-160 (E-240) tape in the playback, FPS, RPS and Pause modes and observe tape wrinkle at each guide.
2. If excessive tape wrinkle is observed, perform the following adjustments in Playback mode :

- Tape wrinkle at the S, T-guide roller section : Linearity adjustment.
- Tape wrinkle at tape guide flange : A/C head assembly coarse adjustment.

2-3 Reel Torque

2-3-1 Reel Torque

1. The rotation of the capstan motor drives the clutch ass'y through the capstan motor belt.
2. Brake operation and shift operation in FF/REW are done by a leverslide.
3. Transportation of accurate driving force is done by gears (clutch ass'y).

Note : If the spec does not meet the followings specifications, replace the clutch ass'y and then recheck.

MODE	TORQUE g/cm	GAUGE
PB/REC	100 ± 30	Cassette Torquemeter
RPS	170 ± 30	Cassette Torquemeter
FF/REW	Minimum 600	Torque Gauge

2-3-2 Location of Tension Pole and Back Tension Adjustments

1. Remove the housing ass'y and set the deck to "PLAY" mode.
2. Adjust the tension cam to 0 ~ -0.5mm from the center of supply roller.
3. The back tension meter should read 41 ~ 51g.cm. (PAL : 40 ~ 47g.cm)

Counterclockwise : Torque UP
Clockwise : Torque DOWN

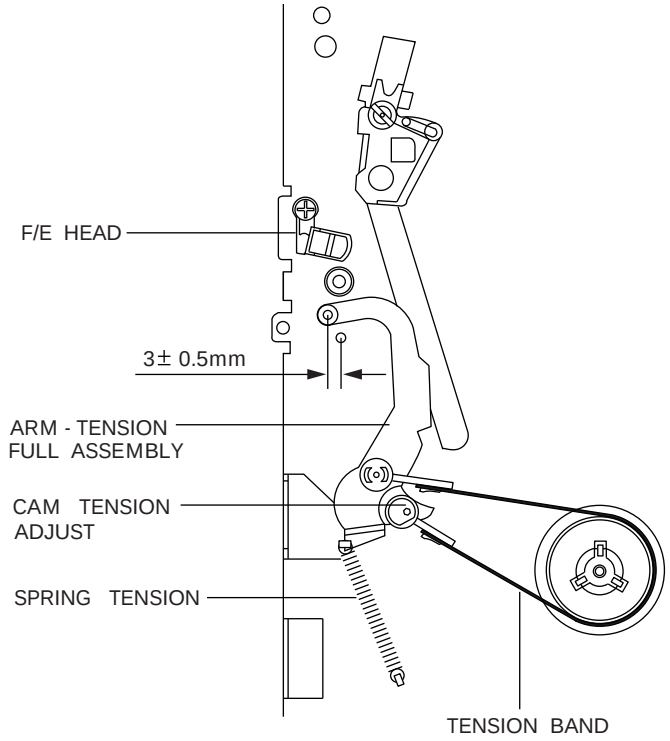


Fig. 2-11 Tension Pole and Back Tension Adjustment

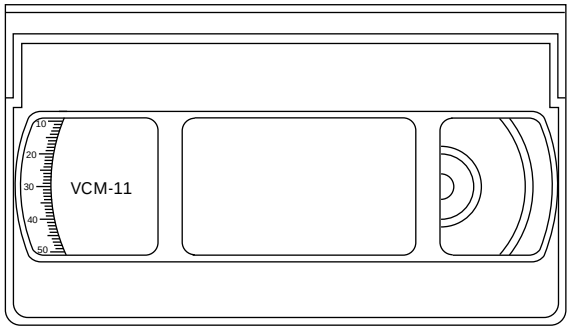


Fig. 2-12 Back Tension Tape Torque Cassette